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**Wartime tactical adaptation and operational success
British and Japanese armies in Burma and India, 1941–45**

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Wartime Tactical Adaptation and Operational Success:

British and Japanese Armies in Burma and India, 1941–45

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Abstract

This dissertation examines wartime tactical adaptation and its relationship with operational performance and outcome, using case studies of mid-to-high intensity conflict during the Second World War. It asks: In what circumstances and in what ways does tactical adaptation contribute to operational success or failure? Also examined are what conditions cause wartime tactical adaptation to be more or less effective at changing performance, and how different types of adaptation cause different effects on outcome. The study begins by considering contemporary theories on military innovation, adaptation, and effectiveness. Then it builds upon this foundation through case studies of seven operations in Burma and India from 1941–45. Three hypotheses are considered regarding types of adaptation under various conditions, to examine performance and effectiveness of British and Japanese forces, and how these factors contributed to operational success or failure. From these case studies the dissertation develops more general principles about how forces may adapt more effectively and efficiently during conflict, limitations regarding wartime adaptation, and some risks associated with wartime change.

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Chapter One

Introducing Tactical Adaptation and Operational Success

Following Japanese surrender in 1945, for several years in Vietnam the French military “outclassed their Vietnamese adversaries.”¹ But by 1950 the cumulative effect of new Soviet and Chinese assistance in advisors, training camps, and modern weapons had combined to alter the balance of forces and enabled the Viet Minh to change primary combat purpose and battlefield goals.² Vietnamese forces had expanded and transformed into regular army units, to include five 10,000-member infantry divisions and an artillery division, all designed and trained for open warfare. With this altered force, in late 1950 the Viet Minh overran France’s frontier posts and by December were poised for the potentially decisive battle of overtaking the Red River Delta.³ By this point the Viet Minh had endured setbacks and adjusted techniques, possessed new and increased resources, modernized equipment and weapons, incorporated new training and skills, reorganized into larger units designed for open warfare, and had transformed tactical methods in accordance with operational concepts for conventional warfare—all elements that seem to be reasonable criteria for wartime adaptation tailored to improve battlefield effectiveness. So, then what was the subsequent outcome at the Red River Delta against French defenders in 1951?

The operation was a complete failure, and a costly one. Over several months and three multi-division attacks, Viet Minh forces were “badly mauled” as they fought in the open delta, suffered over 12,000 casualties, and lost nearly half their combat divisions.⁴ Militarily, the operation failed to attain its goal of seizing the Red River Delta’s vital economic and population hub, and failed to end the war.

¹ Peter Mansoor and Williamson Murray, eds., *Hybrid Warfare: Fighting Complex Opponents from the Ancient World to the Present* (New York: Cambridge University Press, 2012), p. 7.

² Rupert Smith, *The Utility of Force: The Art of War in the Modern World* (New York: Random House, 2007), p. 232.

³ Robert H. Scales Jr., *Firepower in Limited War* (Washington, DC: National Defense University Press Publication, 1993), pp. 36-37.

⁴ Ian F.W. Beckett, *Modern Insurgencies and Counterinsurgencies: Guerrillas and their Opponents since 1750* (London: Routledge, 2001), p. 116. Assessment of losing half the divisions is from Scales, 49. Reports of casualties vary, with Beckett citing 12,000, compared with 20,000 in Max Boot, *Invisible Armies: An Epic History from Guerrilla Warfare from the Ancient Times to the Present* (New York: Liveright Publishing Corporation, W.W. Norton & Company, 2013), p. 356.

Politically, there was “no silver lining” in any larger gains for the offensive.⁵ What might this example suggest about analysing wartime adaptation and its relationship with operational outcome?

The Viet Minh example indicates how adaptive forces can fail. It suggests that, in some instances, wartime adaptation may entail new costs in resources and lives, possibly even contributing to battlefield failure. This scenario hints at how the relationship between wartime adaptation and operational outcome may be more complex than intuitively assumed. This case also indicates how the relationship between tactics and operations may benefit from their distinct examination. Of course, three years later the Viet Minh defeated France’s army, suggesting a shortcoming in any analysis that fails to consider larger context; but the 1951 loss entailed many significant costs, delivered a large setback, and the ultimate victory was not guaranteed. In other circumstances a campaign or war may unfold very differently. Therefore, an incomplete understanding about what wartime adaptation can or cannot deliver to battlefield performance risks future costs in resources and lives. In pursuit of this greater understanding, this project will examine the nature of wartime tactical adaptation and its relationship with combat operations, their performance, and outcome.

Project Design, Scope, and Objectives

To assess wartime tactical adaptation’s causal relationship with operational outcome during mid-to-high intensity ground combat, this study addresses the primary research question: When does tactical adaptation in warfare enable operational success or failure, and when does it make no difference? Also, two secondary questions are considered: What conditions cause wartime tactical adaptation to be more or less effective at changing operational performance? How do different types of adaptation cause different effects on operational outcome? These questions reflect this study’s argument that the causal relationship between wartime tactical adaptation and operational outcome remains insufficiently examined. Literature has focused on drawing out the distinction between adaptation and innovation, addressing a puzzle regarding how and when military organizations conduct major

⁵ Boot, *Invisible Armies*, 356.

change or transformation.⁶ Therefore, this research is distinct and may deliver an original and relevant contribution to the field of security studies since it examines the relationship between tactical adaptation and operational performance. This research gap persists despite increased academic analysis of wartime adaptation since the mid-2000s, delivering vital contributions to address omissions in this field of study.⁷

For this project, the independent variable of tactical adaptation may be considered *changed methods, techniques, or procedures to make people, units, or*

⁶ Regarding major military change see Theo Farrell and Terry Terriff, eds., *The Sources of Military Change: Culture, Politics, and Technology* (Boulder, Colorado: Lynne Rienner Publishers, 2002); Michael C. Horowitz, *The Diffusion of Military Power* (Princeton, New Jersey: Princeton University Press, 2010). For major innovation see Barry R. Posen, *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars* (Ithaca, New York: Cornell University Press, 1984); see also Stephen Peter Rosen, *Winning the Next War: Innovation and the Modern Military* (Cornell, New York: Cornell University Press, 1991). For post-Cold War transformation see Theo Farrell, Sten Rynning, and Terry Terriff, eds., *Transforming Military Power since the Cold War* (New York: Cambridge University Press, 2013). For the distinguishing features between innovation and adaptation, see Theo Farrell, “Improving in War: Military Adaptation and the British in Helmand Province, Afghanistan, 2006–2009,” *The Journal of Strategic Studies*, Vol. 33, No. 4 (August 2010), pp. 567–594. See also Adam Grissom, “The Future of Military Innovation Studies,” *The Journal of Strategic Studies*, Vol. 29, No. 5 (October 2006), pp. 905–934.

⁷ Sergio Catignani, “Coping With Knowledge: Organizational Learning in the British Army?” *The Journal of Strategic Studies*, Vol. 37, No. 1 (2014), pp. 30–64; Sergio Catignani, “‘Getting COIN’ at the Tactical Level in Afghanistan: Reassessing Counter-Insurgency Adaptation in the British Army,” *The Journal of Strategic Studies*, Vol. 35, No. 4 (August 2012), pp. 513–539; Farrell, “Improving in War”; Theo Farrell, Frans Osinga, and James Russell, eds., *Military Adaptation in Afghanistan* (Stanford, California: Stanford Security Studies, 2013); Grissom, “The Future of Military Innovation Studies”; Torunn Laugen Haaland, “The Limits to Learning in Military Operations: Bottom-up Adaptation in the Norwegian Army in Northern Afghanistan, 2007–2012,” *Journal of Strategic Studies*, Vol. 39, No. 7 (July 2016), pp. 999–1022; Francis G. Hoffman, “Adapt, Innovate, and Adapt Some More,” *Proceedings*, United States Naval Institute, Vol. 140, Iss. 3 (March 2014); Francis Hoffman, “The American Wolf Packs: A Case Study in Adaptation,” *Joint Forces Quarterly*, (1st Quarter 2016), pp. 131–139; Nina Kollars, “War’s Horizon: Soldier-Led Adaptation in Iraq and Vietnam,” *The Journal of Strategic Studies*, Vol. 38, No. 4 (3 January 2015), pp. 1–25; Nina Kollars, “Military Innovation’s Dialectic: Gun Trucks and Rapid Acquisition,” *Security Studies*, 23 (2014), pp. 787–813; Raphael Marcus, “Military Innovation and Tactical Adaptation in the Israel–Hizballah Conflict: The Institutionalization of Lesson-Learning in the IDF,” *The Journal of Strategic Studies* (August 2014), pp. 500–528; Raphael D. Marcus, “Learning ‘Under Fire’: Israel’s Improvised Military Adaptation to Hamas Tunnel Warfare,” *Journal of Strategic Studies* (April 2017), pp. 1–27; Niccolò Petrelli, “Deterring Insurgents: Culture, Adaptation and Evolution of Israeli Counterinsurgency, 1987–2005,” *The Journal of Strategic Studies*, Vol. 36, No. 5, pp. 666–691; James A. Russell, “Innovation in War: Counterinsurgency Operations in Anbar and Ninewa Provinces, Iraq, 2005–2007,” *The Journal of Strategic Studies*, Vol. 33, No. 4 (August 2010), pp. 595–624; James Russell, *Innovation, Transformation, and War: Counterinsurgency Operations in Anbar and Ninewa Provinces, Iraq, 2005–2007* (Stanford, California: Stanford University Press, 2011); Olivier Schmitt, “French Military Adaptation in the Afghan War: Looking Inward or Outward?” *Journal of Strategic Studies*, Vol. 40, No. 4 (August 2016), pp. 577–599; Caitlin Talmadge, *The Dictator’s Army: Battlefield Effectiveness in Authoritarian Regimes* (Ithaca, New York: Cornell University Press, 2015); Caitlin Talmadge, “The Puzzle of Personalist Performance: Iraqi Battlefield Effectiveness in the Iran–Iraq War,” *Security Studies*, 22 (2013), pp. 180–221.

*equipment suitable for new combat purposes or different combat conditions in a repeated or shared manner.*⁸ The dependent variable of operational success is considered *the ability to achieve assigned missions with acceptable expenditures of material and human resources according to planned times.*⁹ Success, therefore, is efficiently achieving objectives. To analyse and to measure these variables, this examination also uses the concepts of wartime performance, effectiveness, and outcome, terms which are related but not identical. Performance is a process of carrying out operations through battle and tactics, while effectiveness refers to a measure of quality that rates ability and performance.¹⁰ Outcome, then, is a result that entails goals, costs, and time, to which performance and effectiveness contribute and is labelled in this study as success or failure.

This study aims to contribute to the academic literature on military adaptation by targeting the sub-field currently pioneering research and analysis about wartime change. The research is unique by emphasizing the relationship between processes of tactical change with operational effectiveness and outcome. This project explores: how different types of tactical adaptation influence operational performance; what conditions or contexts cause tactical adaptation to change operational effectiveness; how tactical adaptation may compensate for surprise, setbacks, or mistakes during combat operations; and the relationship between tactical adaptation and operational outcome as measured by success or failure. Overall, this research will deliver opportunities for an enhanced

⁸ This definition emphasizes adaptation as a process, rather than the people who conduct its actions. Because change may come from various directions, people, or units, as discussed later and as displayed in the case studies, this perspective deliberately is constructed to isolate changes, to assess their impact, and to trace what made them change performance and contribute to outcome.

⁹ Definition slightly modifies that used by Peter Mansoor for “combat effectiveness”: “the ability of a military organization to achieve its assigned missions with the least expenditure of resources (both material and human) in the least amount of time.” Peter R. Mansoor, *The GI Offensive in Europe: The Triumphs of American Infantry Divisions, 1941–1945* (Lawrence, Kansas: University Press of Kansas, 1999), p. 3.

¹⁰ As discussed later in more detail, operational effectiveness is the ability of soldiers and units in performing battlefield tasks through a series of missions to destroy adversary forces and achieve physical objectives as designated by their commanders. This definition combines and modifies Ken Pollack’s “military effectiveness” and Stephen Biddle’s “military power” criteria. Pollack’s “military effectiveness” includes “the ability of soldiers and officers to perform on the battlefield, to accomplish military missions, and to execute the strategies devised by their political-military leaders.” See Kenneth M. Pollack, *Arabs at War: Military Effectiveness, 1948–1991* (Lincoln, Nebraska: University of Nebraska Press, 2002), p. 4. Biddle’s criteria includes “the ability to destroy hostile forces while preserving one’s own; the ability to take and hold ground; and the time required to do so.” See Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton, New Jersey: Princeton University Press, 2004), p. 6.

understanding of tactical adaptation in ground warfare, and the relationship between tactical adaptation and operational performance.

A method of structured, focused comparison will analyse this project's case studies.¹¹ This design allows for the identification of variables which shape the outcome of operational success or failure, and then to consider causal patterns related to tactical adaptation which may produce different outcomes. The research is structured as it considers the same research question in each case to guide and standardize information regarding how and under what conditions tactical adaptation may shape operational outcome. The research design is comparative as it considers multiple case studies. It is focused by concentrating on how the independent variable of tactical adaptation relates to the intermediate variable of operational effectiveness and then to the dependent variable of operational success, examining only the specific aspects of the cases concerned with these variables. With this specific focus and common structure, built upon previous scholarship, the seven cases selected from the Second World War contain sufficient control, variation, and information for comparative analysis and to identify causal patterns.¹²

Research Logic

This project follows a common framework to identify adaptation and to evaluate its relationship with performance, effectiveness, and outcome. First, points of potential adaptation are identified: moments of surprise, setback, or opportunity, when forces or personnel may implement tactical change. These also include the decision not to change. Next is considered how adaptation addressed, or failed to address, the main challenge faced by fighting units as displayed during combat performance. Then, the impact of adaption on effectiveness is evaluated using indicators to rate effectiveness as low, intermediate, or high. Next, it is assessed how adaptation influenced effectiveness and whether it was increased, decreased, or unchanged.

¹¹ For a discussion on the method of focused, structured comparison, see Andrew Bennett and Alexander L. George, *Case Studies and Theory Development in the Social Sciences* (Cambridge Massachusetts: MIT Press, 2005), pp. 67-72; Alexander L. George, "Knowledge for Statecraft: The Challenge for Political Science and History," *International Security*, Vol. 22, No. 1 (Summer 1997), pp. 44-52. This research project emulates the description and justification of focused, structured comparison used in Theo Farrell, *Weapons Without A Cause: The Politics of Weapons Acquisition in the United States* (London: Macmillan Press, 1997), pp. 17-18.

¹² Specific cases and their justification are presented at the end of this chapter.

Finally, it is considered how adaptation contributed to the outcome of success or failure, and why.

The tentative research logic is that tactical adaptation alters operational effectiveness which shapes outcome. An intuitive hypothesis is that adaptation may increase effectiveness and thus contribute to operational success. However, the research design is structured to question this logic by asking whether it oversimplifies the relationship between adaptation and outcome or overstates its applicability. This project, then, posits that while tactical adaptation can enhance advantages or reduce setbacks, it cannot independently deliver success or prevent failure. If this argument proves valid then it can address misguided assumptions about what wartime adaptation may deliver, how different types of tactical change may be applied more effectively when facing operational challenges, and how solutions may be delivered more efficiently by planners or decision-makers. A basic chart with this research logic is listed below, including variables, their variance, and process for evaluating impact as will be elaborated in subsequent portions.

Figure 1.1: Variables and Variations

Independent Variable:		Intermediate Variable:	Dependent Variable:	
Tactical Adaptation		Operational Effectiveness	Operational Success	
			Cause Success	
			Enable Success	
		Increase Effectiveness	Prevent Failure	
Adapt or Not	—>	No change	—>	Reduce Setbacks
		Decrease Effectiveness	No Change	
			Exacerbate Setbacks	
			Contribute to Failure	
			Cause Failure	

The primary drivers of wartime adaptation are considered to be operational setbacks and environmental challenges.¹³ Combat realities may fail to meet expectations due to an adversary's surprising proficiency or novel methods, or one's own forces may fail to perform as expected.¹⁴ In severe cases the inadequate performance may risk prospective defeat, which has been identified in organization theory as a fundamental driver for change since it can create new incentives while also revealing deficiencies in beliefs or practices previously favoured.¹⁵ The scenario of a military's potential failure to conduct its core mission may cause it to re-examine fundamental tenets, or cause civilians to intervene in order to pressure for larger change.¹⁶ Additionally, combat may serve as an evaluation process for previously untested methods and techniques, creating new opportunities as "both old and innovative methods can be tested in combat and compared."¹⁷ Of course, operational challenges often interact with environmental conditions, but environmental elements can present independent challenges as well. The diverse challenges from fighting in forests, desert, jungles, plains, or tundra present unique problems distinct from those imposed by an adversary. Overall these challenges and setbacks may be new or an intensification of others.

Failure to adapt appears to entail numerous risks. Most severely and intuitively, forces that fail to adapt may risk defeat if they cannot overcome deficiencies or setbacks in sufficient time to achieve objectives with sustainable costs.¹⁸ And while wartime enables the testing and evaluation of practices, forces still may fail to overcome operational or environmental challenges due to insufficient time, resources, or capacity to deliver an appropriate solution. Costs may aggregate or combine synergistically. Finally, fleeting opportunities may be lost. Yet adaptation entails risks as well. Exploration and experimentation require time and resources that may be unavailable or impractical. Additionally, when the potential cost of failure can be so severe then "militaries have a good reason to

¹³ Driver of operational challenges from Farrell, Osinga, Russell, 8-10. Farrell included environment as an operational challenge but here it is separated to focus on operations and tactics.

¹⁴ For a historical overview of operational pressures influencing military adaptation see Williamson Murray, *Military Adaptation in War: With Fear Of Change* (New York: Cambridge University Press, 2011).

¹⁵ Posen, *The Sources of Military Doctrine*, 57.

¹⁶ Posen, *The Sources of Military Doctrine*, 57.

¹⁷ Rosen, *Winning the Next War*, 23.

¹⁸ Rosen, *Winning the Next War*, 22-23.

favour tried and tested ways of doing things.”¹⁹ Adaptation is almost never a risk-free or cost-free endeavour.

TACTICAL ADAPTATION: TENETS AND NEED

What is Tactical Adaptation?

Adaptation is related to military innovation but includes sufficiently distinct elements so that it may be examined as an independent variable. Military innovation may be considered a major change in how a force conceptualizes and conducts warfare, likely to produce a significant impact on battlefield performance.²⁰ Founded in the approach of Barry Posen,²¹ scholars generally define military innovation as a change in battlefield function of significant scope and impact that is “tacitly equated with greater military effectiveness.”²² Adaptation, then, generally occurs during wartime and entails a less-significant scope of change compared with innovation, although it may still deliver significant impact.²³ At the tactical level, adaptation is most likely to deliver this larger impact through an accumulation of effects: “adapting tactics, techniques, and procedures (TTPs), can add up to significant change in a military’s capabilities or approach to operations.”²⁴ As such, this project’s conceptualization of the relationship between adaptation and innovation reflects the presentation as each existing as two points of a sliding scale, where between the two it is not “feasible or fruitful to draw too fine a distinction.”²⁵ Across this scale, both innovation and adaptation are considered a subset of wartime change, with difference more in degree than in kind.

Throughout this examination, tactical adaptation is considered *changed methods, techniques, or procedures to make people, units, or equipment suitable for new combat purposes or different combat conditions in a repeated or shared manner*. For example, during the Second World War, U.S. light tanks in North

¹⁹ Farrell, “Improving in War,” 571.

²⁰ A slight modification from the definition used by Marcus, “Military Innovation and Tactical Adaptation,” 503.

²¹ Posen, *The Sources of Military Doctrine*.

²² Grissom, 907. For example, the development of aircraft carrier warfare for the Second World War. See Horowitz, *The Diffusion of Military Power*. Discussed later in this section, the concept of military innovation has expanded since the mid-2000s to include the subfield of wartime adaptation.

²³ Theo Farrell, “Introduction: Military Adaptation in War,” in Farrell, Osinga, Russell, 6-7.

²⁴ Farrell, in Farrell, Osinga, and Russell, 7.

²⁵ Farrell, in Farrell, Osinga, and Russell, 7.

Africa adjusted tactics to target German Panzers' vulnerable rears.²⁶ Others emulated the change and it spread, delivering improved firepower and manoeuvre while remaining within the larger standard operational concept. Elsewhere, in northwest Europe, U.S. tanks stalled in France's hedgerows, causing company-level personnel to attach metal teeth suited for breaching the terrain.²⁷ This modification spread across First Army along with revised procedures for employing the improved mobility.²⁸ Now after breaching the hedgerows, infantry and armour troops required altered tactics for use against the stout German defences, and adjusted training to deliver enhanced integration of combat arms.²⁹ All these changes improved firepower and mobility, delivered significant gains in combat power, and contributed to success. Often, purpose and suitability cannot be fully separated as tactics include the technical application of combat power as well as how it is applied through position and movement.³⁰ In the above examples, counter-tank warfare reflected an updated combat purpose for tank companies beyond simply supporting infantry, and the adjusted method for attacking Panzers overcame a U.S. shortcoming in firepower which effectively applied U.S. tanks' guns. Similarly, faced with a new combat condition in hedgerows that presented both physical barriers and effective German defences, First Army modified tanks and altered techniques of units and personnel to overcome setbacks.

In addition to the criteria of new purpose and suitability, changes must also be repeated or shared. This caveat indicates how adaptation entails a minimum longevity which distinguishes it from limited change. If a new method, technique, or

²⁶ David E. Johnson, *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army, 1917–1945* (Ithaca, New York: Cornell University Press, 1998), pp. 189-190.

²⁷ Paul Collier, Alastair Finlan, Mark Grove, Philip Grove, Russell Hart, Stephen Hart, Max Hastings, Robin Havers, David Horner, and Geoffrey Jukes, eds., *The Second World War: A World In Flames* (Oxford, UK: Osprey Publishing, 2004), p. 390; Michael Doubler, *Closing with the Enemy: How GIs Fought the War in Europe, 1944–1945* (Lawrence, Kansas: University Press of Kansas, 1994), p. 45.

²⁸ Doubler, *Closing*, 46; Sylvan, US Army Diaries, 14 July 1944, USAMHI; Bradley, *A Soldier's Story*, 342; First Army Report, 5, pp. 200-201; cited in Michael Doubler, "Busting the Bocage: American Combined Arms Operations in France 6 June–31 July 1944," Combat Studies Institute, US Army Command and General Staff College (November 1988), p. 17, footnote 34.

²⁹ Doubler, "Busting," 11; Doubler, *Closing*, 37-42.

³⁰ Called the art and science of tactics: "The art of tactics lies in how we creatively form and apply military forces in a given situation. It involves creation, positioning, and maneuver of combat power.... The science of tactics lies in the technical application of combat power. It includes mastering the techniques and procedures that contribute to the development of warfighting skills such as marksmanship, navigation, gunnery, and close air support." United States Marine Corps, *MCDP 1-3 Tactics* (Washington, DC: Department of the Navy, 1997), p. 4.

procedure is limited to a single instance or occurring in pure isolation then it would not be considered adaption. Consistent with the examples above, adjusted inter-tank gunnery techniques spread across units,³¹ tank modifications were shared through First Army by official order,³² and altered small-unit combined-arms techniques were disseminated through official pamphlets for training.³³ These changes were shared and repeated across units for sustained periods of time, ensuring a longevity beyond the original moments.

Intended Contribution regarding Adaptation and Performance

Surveying the current field of security studies, this project posits that wartime tactical adaptation is insufficiently examined and therefore risks being incompletely or misunderstood. Scholarship during the Cold War and 1990s tended to emphasize major military innovation and force transformation, reflecting the primary concerns and challenges of great powers during that period. The result was significant contributions regarding innovation during times of war and peace. Later, as NATO and other militaries became increasingly engaged in conflict after 2001, new studies emerged to consider different contemporary concerns about challenges experienced during warfare, to include adaptation. However, the subfield remains far from a comprehensive understanding of this phenomenon. Specifically, much scholarship has emphasized counterinsurgency without thoroughly questioning the underlying assumptions associated with adaptation, or the topic's relationship with campaigns and operations. Adaptation studies have tended to overlook the specific relationship between tactical change and operational performance. In response, this project will begin to address these shortcomings by delivering new insights regarding tactical adaptation through an examination of its relationship specifically related to operational performance and outcome.

This study's contributions will build upon previous scholarship emphasizing military innovation, doctrinal change, and organizational development, upon which the subfield of military adaptation had grown. In general, previous writings often "took the form of grand historical narratives, operational histories, or bureaucratic-

³¹ Johnson, *Fast Tanks and Heavy Bombers*, 190.

³² Doubler, *Closing*, 46.

³³ Doubler, *Closing*, 51.

political case studies.”³⁴ Then, in 1984, Barry Posen’s *The Sources of Military Doctrine* applied a social science approach and it “triggered the emergence of a new field, military innovation studies.”³⁵ At this time, works emphasized large-scale changes and new ways for militaries to function, rather than adaptation.³⁶ Also, changes during times of war remained under-analysed as studies tended to emphasize “military innovation in peacetime rather than in conflict.”³⁷ From these examinations emerged two general shortcomings. First, adaptation was overlooked which resulted in an incomplete understanding of the phenomenon. Second, tactical changes were considered within larger categories of innovation or change so that analyses failed to isolate how tactical adaptation specifically influenced operations.

These omissions also created opportunities. In 2006, Adam Grissom identified how “none of the major models of military innovation” adequately addressed innovation from the “bottom-up”—the tactical level of warfare.³⁸ Grissom assessed that the field of military innovation may be approaching a paradigm shift in assumptions and conceptual frameworks due to the insufficient attention delivered to innovation originating from tactics.³⁹ He concluded that “there is an entire class of bottom-up innovations that have yet to be explored, understood, and explained,” and that “the door is open for an individual or group of scholars to make a major contribution to the field.”⁴⁰ While studies had hinted at the importance of bottom-up innovation, “little progress has been made in achieving a conceptual understanding of the phenomenon.”⁴¹ Subsequently, new scholars and policy analysts delivered increased attention to wartime adaptation but still without providing a comprehensive and specific conceptual understanding. This shortcoming was highlighted by the assessment, in 2013, that “few studies” had “explicitly considered

³⁴ Grissom, 906.

³⁵ Grissom, 906. See also Posen, *The Sources of Military Doctrine*.

³⁶ Allan R. Millett and Williamson Murray, eds. *Military Effectiveness Volumes 1-3*, New Edition (New York: Cambridge University Press, 2010), first published by Unwin Hyman in 1988; Stephen Peter Rosen, “New Ways of War: Understanding Military Innovation,” *International Security*, Vol. 13, No. 1 (Summer 1988), pp. 134–168; Rosen, *Winning*.

³⁷ John A. Nagl, *Learning to Eat Soup with a Knife: Counterinsurgency Lessons from Malaya and Vietnam*, revised edition (Chicago: The University of Chicago Press, 2005), p. 214, first published 2002.

³⁸ Grissom, 920.

³⁹ Grissom, 924.

⁴⁰ Grissom, 930.

⁴¹ Grissom, 905.

military adaptation.”⁴² Many contributions touching on tactical analysis from 2006–10 tended to favour practical lessons from military officers, or policy recommendations from public intellectuals focused largely on counterinsurgency efforts in Iraq and Afghanistan.⁴³ Simultaneously, social science analyses pushed the subfield of military adaptation into a realm that previously “remained a topic for military historians in the context of specific battles and campaigns.”⁴⁴ As such, historical studies continued to examine wartime change and the subfield grew with additional analyses. Several emphasized the First World War and considered tactical changes related to the development of operations and emerging concepts associated with modern warfare, to include numerous new technologies and related capabilities, combining arms, the emergence of battlefield depth, and the need to coordinate forces across new scales of time and space.⁴⁵ Others considered the Second World War, also focusing on the specifics of their period, to include Allied learning for the Normandy Campaign, U.S. Army divisions in Northwest Europe, or

⁴² Farrell, in Farrell, Osinga, Russell, 6.

⁴³ Ralph Baker, “HUMINT-Centric Operations: Developing Actionable Intelligence in the Urban Counterinsurgency Environment,” *Military Review* (March–April 2007), pp. 12–21; Timothy Bush, Mark Garrett, James Hutton, and Thomas Metz, “Massing Effects in the Information Domain: A Case Study in Aggressive Information Operations,” *Military Review* (May–June 2006), pp. 103–113; Sean MacFarland and Niel Smith, “Anbar Awakens: The Tipping Point,” *Military Review* (March–April 2008), pp. 41–52; Thomas Ricks, *The Gamble: General David Petraeus and the American Military Adventure in Iraq, 2006–2008* (New York: Penguin Books, 2009); Kimberly Kagan, *The Surge: A Military History* (New York: Encounter Books, 2009); John A. Nagl, “Forward to the University of Chicago Press Edition: The Evolution and Importance of Army/Marine Corps Field Manual 3–24, *Counterinsurgency*,” *The U.S. Army/Marine Corps Counterinsurgency Field Manual* (Chicago, Illinois: The University of Chicago Press, 2007), pp. xiii–xx; Sarah Sewall, “Introduction to the University of Chicago Press Edition: A Radical Field Manual,” *U.S. Army/Marine Corps Counterinsurgency Field Manual*, xxiii–xliii.

⁴⁴ Farrell, in Farrell, Osinga, Russell, 6.

⁴⁵ Several of these authors and their arguments will also be used to develop the hypotheses discussed in Chapter Two. For a useful overview of First World War learning see William Philpott, “Warfare 1914–1918,” *International Encyclopedia of the First World War*, edited by Ute Daniel, Peter Gatrell, Oliver Janz, Heather Jones, Jennifer Keene, Alan Kramer, and Bill Nasson (Berlin: Freie Universität Berlin, DOI 08 October 2014). For specific analyses see Jonathan B.A. Bailey, “The First World War and the Birth of Modern Warfare,” in MacGregor Knox and Williamson Murray, eds., *The Dynamics of Military Revolution 1300–2050* (New York, New York: Cambridge University Press, 2008), pp. 132–153; Jonathan Boff, *Winning and Losing on the Western Front: The British Third Army and the Defeat of German, 1918* (Cambridge, UK: Cambridge University Press, 2012); Robert T. Foley, “A Case Study in Horizontal Military Innovation: The German Army, 1916–1918,” *The Journal of Strategic Studies*, Vol. 35, No. 6 (December 2012), pp. 799–827; Robert Foley, “Dumb Donkeys or Cunning Foxes? Learning in the British and German Armies During the Great War,” *International Affairs*, Vol. 90, No. 2 (2014), pp. 279–298; Paddy Griffith, *Battle Tactics on the Western Front: The British Army’s Art of Attack 1916–18* (New Haven, Connecticut: Yale University Press, 1994); Timothy Lupfer, “The Dynamics of Doctrine: The Change in German Tactical Doctrine During the First World War,” Leavenworth Paper No. 4, Combat Studies Institute, U.S. Army Command and General Staff College (July 1981).

U.S. Army forces as they fought to Germany.⁴⁶ Several authors specifically addressed British Army and Commonwealth learning, considering how doctrine and training influenced military performance in Northwest Europe.⁴⁷ However, these examinations remained highly contextual—the natural orientation of historical analysis—and therefore did not move to broader assessments about the relationship between wartime change and operational outcome. Of course, this scenario results largely from the different purposes of historical and social science analyses, but this difference reinforces how needs remain for addressing the topic of wartime adaptation and how it may benefit multiple fields. Taken together, this combination of specific focus and policy orientation across security studies, political science, and history, supports the importance of seeking a more comprehensive understanding wartime adaptation’s nature, benefits, limits, and costs.⁴⁸

Scholars in the late-2000s increased contributions regarding wartime adaptation and often indicated its desirability for improved battlefield performance, displaying the need to identify precisely what it could deliver. For example, Chad Serna examined “why the [U.S.] army had to adapt so radically” from 2003–08.⁴⁹ David Ucko considered how the U.S. military in Iraq adapted to challenges that

⁴⁶ Discussed more in Chapter Two. See Doubler, “Busting”; Doubler, *Closing*; Russell A. Hart, *Clash of Arms: How the Allies Won in Normandy* (Norman, Oklahoma: University of Oklahoma Press, 2001); Mansoor, *The GI Offensive*.

⁴⁷ Also discussed more in Chapter Two. See John Buckley, *Monty’s Men: The British Army and the Liberation of Europe, 1944–45* (New Haven and London: Yale University Press, 2013); John Buckley, “Tackling the Tiger: The Development of British Armoured Doctrine for Normandy 1944,” *The Journal of Military History*, Vol. 74, No. 4 (October 2010), pp. 1161–1184; Terry Copp, *Cinderella Army: The Canadians in Northwest Europe 1944–45* (Toronto: University of Toronto Press, 2007); Terry Copp, *Fields of Fire: The Canadians in Normandy* (Toronto: University of Toronto Press, 2014), second edition, originally published 2003; Robert Engen, *Canadians Under Fire: Infantry Effectiveness in the Second World War* (Montreal: McGill-Queen’s University Press, 2009); Charles Forrester, *Monty’s Functional Doctrine: Combined Arms Doctrine in British 21st Army Group in Northwest Europe, 1944–45* (Warwick, England: Helion & Company Limited, 2015); David French, *Raising Churchill’s Army: The British Army and the War Against Germany 1919–45* (Oxford: Oxford University Press USA – Oxford Scholarship Online, 2000); Timothy Harrison Place, *Military Training in the British Army, 1940–1944: From Dunkirk to D-Day* (London: Frank Cass, 2000).

⁴⁸ Kimberly Kagan, “Enforcing the Law: The Baghdad Security Plan Begins, February 10, 2007–March 5, 2007,” Washington, DC: Institute for the Study of War (15 March 2007); Kimberly Kagan, “Anbar Awakening: Displacing al Qaeda from Its Stronghold in Western Iraq, August 21, 2006–March 30, 2007,” Washington, DC: The Institute for the Study of War (5 April 2007); Brett Van Ess, “The Fight for Marjah: Recent Counterinsurgency Operations in Southern Afghanistan,” published simultaneously by the Institute for the Study of War and *Small Wars Journal* (30 September 2010).

⁴⁹ Chad Serna, *A Revolution in Military Adaptation: The US Army in the Iraq War* (Washington DC: Georgetown University Press, 2011), p. ix.

could then be institutionalized.⁵⁰ Meir Finkel asserted that the ability to recuperate swiftly during conflict presented an essential response to wartime surprise.⁵¹ While these claims delivered useful analysis, they reflected an assumption that adaptation was inherently beneficial for increasing effectiveness and contributing to success, but without thoroughly examining this relationship with battlefield operations.

Since 2010, scholarship of increased rigor has emerged and contributed to new conceptual understanding of wartime adaptation, but opportunities remain regarding tactical adaptation and particularly its relationship with operations. Using case studies of Iraq and Afghanistan, James Russell and Theo Farrell examined how and when military adaptation occurs.⁵² Russell's "Innovation in War" examined three battalions operating in Iraq between 2005 and 2007, concluding that the units "successfully innovated in war—a process largely executed organically within the units themselves."⁵³ Russell argued that searching for tactical solutions to unpredicted problems delivered new organizational capacities not initially present, allowing the units to transition from a focus on conventional operations to counterinsurgency.⁵⁴ Russell expanded this analysis in his 2011 *Innovation, Transformation, and War*,⁵⁵ concluding that battlefield tactical adaptation drove larger organizational innovation at the U.S. Department of Defense (DoD). Examining U.S. Army and Marine Corps forces in Iraq from 2003–06, Russell concluded that brigade-level units independently adapted effectively in the field which then caused rear-echelon efforts to reorient capabilities toward the new circumstances.⁵⁶ For Russell, tactical adaptation caused fundamental changes as local successes drove larger doctrinal change in the DoD as it attempted to emulate, reproduce, and spread successful new techniques and procedures.⁵⁷ Thus, Russell began to address the need identified by Grissom—to assess innovation originating in the tactical units—and presented examples of "ad hoc adaptation in which

⁵⁰ David Ucko, *The New Counterinsurgency Era: Transforming the U.S. Military for Modern Wars* (Washington, DC: Georgetown University Press, 2009).

⁵¹ Meir Finkel, *On Flexibility: Recovery from Technological and Doctrinal Surprise on the Battlefield*, English ed., translated by Moshe Tlamim (Stanford, California: Stanford University Press, 2011), published as *Al Hagemishut* (Israel: Ma'arachot, 2007); Murray, *Military Adaptation*, 2.

⁵² Farrell, "Improving in War"; Russell, "Innovation in War."

⁵³ Russell, "Innovation In War," 596.

⁵⁴ Russell, "Innovation In War," 596.

⁵⁵ Russell, *Innovation, Transformation, and War*.

⁵⁶ Russell, *Innovation, Transformation, and War*, ix.

⁵⁷ Russell, *Innovation, Transformation, and War*, 8.

individual leaders reacted to local circumstances by cycling through different ways of employing their units and equipment on the battlefield.”⁵⁸ Farrell’s “Improving in War” advanced these assessments by presenting a new theory regarding how militaries improve operational performance during wartime.⁵⁹ Examining six British Task Forces between 2006 and 2009 in southern Afghanistan, Farrell explored how new ideas, low degrees of centralization, and high personnel turnover enabled British forces to be adaptive.⁶⁰ He argued that these traits were vital in delivering battlefield advantages. Despite his addition and the recent gains in the field, Farrell still concluded that “more research needs to be done” to understand military adaptation.⁶¹ Also, that recent practical experience “confirms the importance of studying bottom-up military adaptation.”⁶² This enduring need and relevance for studying wartime adaptation was echoed by Williamson Murray who argued that the issue of combat adaptation represented “one of the most persistent, yet rarely examined problems that military institutions confront.”⁶³ Subsequent assessments examined new ideas by considering how international partners may learn during counterinsurgency,⁶⁴ challenges for small states adapting in multi-national coalitions,⁶⁵ and specific tactical problems for smaller-scale conflicts,⁶⁶ but the larger questions remained unanswered about how these changes may enable operational goals or to deliver larger advantages. Thus, an enhanced understanding about how and under what conditions tactical adaptation may shape operational performance and contribute to success appears to be a timely, relevant need that remains insufficiently addressed by existing security studies scholarship. Next one must consider how these elements and their relationship may be identified, measured, and evaluated.

⁵⁸ Russell, “Innovation In War,” 619.

⁵⁹ Farrell, “Improving in War,” 567-594.

⁶⁰ Farrell, “Improving in War,” 572-573.

⁶¹ Farrell, “Improving in War,” 592.

⁶² Farrell, “Improving in War,” 589-590.

⁶³ Murray, *Military Adaptation*, 1.

⁶⁴ Schmitt.

⁶⁵ Haaland, “The Limits to Learning.”

⁶⁶ Marcus, “Learning ‘Under Fire.’”

OPERATIONAL EFFECTIVENESS: IDENTIFICATION AND MEASUREMENT

Diverse research has considered military power. But, so far, this scholarship has yet to identify precisely the tenets of operational effectiveness and to discern how they may be manipulated by tactical changes to deliver success or to prevent failure. Therefore, this project aims to use specific criteria for identifying levels of effectiveness during mid-to-high intensity ground warfare and assess how these levels may raise or fall through wartime adaptation.

Military power has been a core theme of international affairs since some of the oldest and most renowned writings on politics.⁶⁷ Modern thinkers continued to consider the broad field of military power, establishing a foundation and identifying opportunities for additional analysis.⁶⁸ Since the mid-1980s, a handful of analysts pursued narrower scopes to concentrate more specifically on military effectiveness, delivering vital contributions to form a general foundation in the subfield.⁶⁹ This concentration provided a more precise understanding of operational effectiveness,⁷⁰ as well as some initial criteria for its identification and measurement.⁷¹ Yet despite this increased attention, scholars have still concluded that a more coherent, cumulative literature was required for this critical subject.⁷² In particular, recent studies had indicated the importance of examining how operational outcome may be influenced by different variables while much remained unexplored and many questions unanswered.⁷³ Thus, without additional progress, this scenario risked an

⁶⁷ As exemplified by the writing of Thucydides in that “the strong do what they can and the weak suffer what they must.” Thucydides, “The Melian Dialogue,” in Richard K. Betts, ed., *Conflict After the Cold War: Arguments on Causes of War and Peace* (New York: Longman, 2002), p. 38.

⁶⁸ Overview in Risa A. Brooks, “Introduction: The Impact of Culture, Society, Institutions, and International Forces on Military Effectiveness,” in Risa Brooks and Elizabeth Stanley, eds., *Creating Military Power: The Sources of Military Effectiveness* (Stanford, CA: Stanford University Press, 2007), pp. 4-9.

⁶⁹ Allan R. Millett, Williamson Murray, and Kenneth Watman, “The Effectiveness of Military Organizations,” *International Security*, Vol. 11, No. 1 (Summer 1986), pp. 37-71; Millett and Murray, *Military Effectiveness Vol. 1-3*; Martin van Creveld, *Fighting Power: German and U.S. Army Performance, 1939–1945* (Westport Connecticut: Greenwood Press, 1982).

⁷⁰ Biddle, *Military Power*; Stephen Biddle, “Victory Misunderstood: What the Gulf War Tells Us About the Future of Conflict,” *International Security*, Vol. 21, No. 2 (Fall 1996), pp.139-179; Mansoor, *The GI Offensive*; Pollack, *Arabs at War*.

⁷¹ Brooks and Stanley; Talmadge, *The Dictator’s Army*; Talmadge, “The Puzzle of Personalist Performance.”

⁷² Brooks, “Introduction,” in Brooks and Stanley, 5.

⁷³ Some have begun to recognize this need and how it remains unfulfilled. See Brooks and Stanley; Farrell, “The Dynamics of British Military Transformation”; Farrell, Osinga, and Russell.

incomplete understanding of wartime performance and what is considered effective. It also provided a unique opportunity for new ideas.

This study's concentration on operations and operational effectiveness will begin to address this omission. The unit of analysis is the operation, which may be considered "a series of interconnected battles resulting from a single prior plan."⁷⁴ Operations are the ways in which strategic goals are translated into the tactical methods necessary for their attainment, aligning and linking tactics with strategy. Operations are sufficiently isolatable and form a distinct unit of analysis as they frequently (although not necessarily) occur within a campaign, "a series of one or more interconnected operations in a single theater."⁷⁵ A body of literature has developed to consider operations and what makes them more or less effective, although no agreement exists about what, exactly, is operational effectiveness.⁷⁶ In this examination, then, the intermediate variable of operational effectiveness is considered *the ability of soldiers and units in performing battlefield tasks through a series of missions to destroy adversary forces and achieve physical objectives as designated by their commanders*. This perspective posits that effectiveness contributes to campaign outcome, while acknowledging that it may not decisively determine the outcome of an operation, campaign, or war. For example, during the 1939–40 Winter War, Finland's impressive battlefield skills against the Soviet Seventh Army failed to prevent defeat.⁷⁷ In 1944, U.S. First Army in the Huertgen Forest displayed low operational effectiveness yet still managed to capture the forest.⁷⁸ These instances reinforce how high or low effectiveness may not

⁷⁴ Biddle, *Military Power*, 6.

⁷⁵ Biddle, *Military Power*, 242, footnote 17.

⁷⁶ See Mike Brennan and Justin Kelly, *Alien: How Operational Art Devoured Strategy* (Carlisle, Pennsylvania: U.S. Army War College Strategic Studies Institute, September 2009); Biddle, *Military Power*; Jonathan M. House, *Combined Arms Warfare in the Twentieth Century* (Lawrence, Kansas: University Press of Kansas, 2001); Millett, Murray, and Watman; Millett and Murray, *Military Effectiveness Vol. 1-3*; Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (Tel Aviv: The Cummings Center for Russian and East European Studies, 1997), reprinted in 2004 by Frank Cass.

⁷⁷ See John A. English and Bruce Gudmundsson, *On Infantry*, revised edition (Westport, Connecticut: Praeger, 1994), p. 85, originally published 1981; John Keegan, *The Second World War* (New York: Penguin Books, 1989), p. 47; Leonard C. Lundin, *Finland in the Second World War* (Bloomington, Indiana: Indiana University Press, 1957), p. 58; Allan Millett and Williamson Murray, *A War to be Won: Fighting the Second World War* (Cambridge, Massachusetts: The Belknap Press of Harvard University Press, 2000), p. 56; Olli Vehviläinen, *Finland in the Second World War, Between Germany and Russia* (New York: Palgrave, 2002); John Hughes-Wilson, "Snow and Slaughter at Suomussalmi," *Military History*, Vol. 22, No. 10 (January/February 2006), p. 47.

⁷⁸ Doubler, *Closing*, 172-197.

necessarily result in a corresponding outcome of success or failure. However, it would be hard to argue that military forces past and present would not benefit from a more effective combat performance to reduce costs in lives, time, and resources. Determining what, exactly, this entails has been more complicated.

Establishing a Foundation, Categories, and Measures

This study's definition of operational effectiveness draws from the rich scholarship regarding military power, and this project aims to build upon this general foundation across various fields of study. Emerging largely since the Second World War, modern sociology emphasized human motivation in battle, particularly individuals or small units.⁷⁹ Political science discussed power, war, and military organizations, but regarding specific tenets of how changing performance may alter outcome, political science has been labelled "more a point of departure than a conclusive resolution."⁸⁰ Military history offered rich narratives and contributions, but without building a systemic framework or generalizable patterns for analysing military effectiveness and how it may be created. Finally, operational research considered new technologies, force structures, and resources, eventually growing into sophisticated mathematical modelling and computer simulations, but concentrating largely on resources and numbers caused this perspective "to measure military effectiveness almost exclusively in hard assets, neglecting the organizational and other forces that allow a military to use those assets productively."⁸¹ This combination of faculties delivered new insights but still required more and more-specific analyses to determine how effectiveness should be measured and outcomes may be changed.

⁷⁹ Brooks, 5. For a recent sociological example considering platoon-level unit cohesion, see Anthony King, *The Combat Soldier: Infantry Tactics and Cohesion in the Twentieth and Twenty-First Centuries* (Oxford, UK: Oxford University Press, 2013). Brooks cites: Omer Bartov, *Hitler's Army* (Oxford: Oxford University Press, 1991); S.L.A. Marshall, *Men Against Fire* (New York: William Morrow, 1964); William Darryl Henderson, *Cohesion: The Human Element in Combat* (Washington, DC: National Defense University Press, 1985); Roger W. Little, "Buddy Relations in Combat Performance," in Morris Janowitz, ed., *The New Military: Changing Patterns of Organization* (New York: Russell Sage Foundation, 1964), pp. 195-223; Edward A. Shils and Morris Janowitz, "Cohesion and Disintegration in the Wehrmacht in World War II," *Public Opinion Quarterly* 12 (Summer 1948), pp. 280-315; Samuel A. Stouffer, et al., *The American Soldier: Combat and Its Aftermath* (Princeton, New Jersey: Princeton University Press, 1949); in Brooks, 5, footnotes 6-10.

⁸⁰ Brooks, 7.

⁸¹ Brooks, 6.

In the 1980s a handful of scholars reintroduced human elements for analysing warfare and battlefield performance.⁸² Martin van Creveld's 1982 *Fighting Power* emphasized human skill in combat, particularly "the sum total of mental qualities that make armies fight."⁸³ By challenging assessments that relied solely on numbers of forces or equipment, Van Creveld's comparison of German and U.S. Army performance during the Second World War concluded that an army's overall military power rested significantly on "mental, intellectual, and organizational foundations."⁸⁴ This assessment reflected an idea which would continue to grow in the security studies community: that an examination of wartime performance should include how people and resources are used together rather than considering only their quantity or technological capabilities. Although unexplored by Van Creveld, a logical conclusion from this analysis is an important opportunity regarding adaptation and success: for if military power relies on the way people apply their resources then it may be possible to change battlefield performance by altering some of these non-material variables.

Incorporating this new theme, Allan Millett and Williamson Murray led some of the most comprehensive assessments of military effectiveness which delivered new tools and increased precision for evaluating performance.⁸⁵ "The Effectiveness of Military Organizations" with Kenneth Watman assessed organizational elements in order to "determine precisely where and in what ways organizations have or have not been effective."⁸⁶ The authors emphasized institutional concepts and doctrines regarding how state resources converted into combat power. This perspective encouraged assessments of military power to include considerations about how states translate capabilities into battlefield realities—a key purpose of operations.⁸⁷ The three-volume *Military Effectiveness* more directly considered operations, with contributions by twenty-one authors that evaluated effectiveness from the tactical to strategic levels, delivering a vital framework for discussion and analysis.⁸⁸ While

⁸² See Van Creveld; Millett, Murray, Watman; Millett and Murray, *Military Effectiveness Vol. 1-3*.

⁸³ Van Creveld, 3.

⁸⁴ Van Creveld, 3.

⁸⁵ Millett, Murray, Watman; Millett and Murray, *Military Effectiveness, Vol. 1-3*.

⁸⁶ Millett, Murray, Watman, 38.

⁸⁷ Millett, Murray, Watman, 50-60.

⁸⁸ Millett and Murray, *Military Effectiveness Vol. 1-3*.

the 30-year-old text is a bit dated and suffered from a theoretical framework emphasizing distinct planning activities over other elements, as well as favouring description over rigorous critical analysis, the series still delivered an early attempt, systematically, to consider effectiveness from tactics to strategy.⁸⁹ *Military Effectiveness* encourage more precise evaluation of military performance and provided the foundational analysis upon which many others built.

Since 1990 additional scholarship delivered preliminary benchmarks for measuring changed effectiveness, although ultimately the field's critical need remained unfulfilled.⁹⁰ Eliot Cohen and John Gooch's *Military Misfortune* signalled adaptation as a core tenet of battlefield performance, since failure to adapt could contribute to larger catastrophe.⁹¹ For Cohen and Gooch, this ability to respond to new and unexpected circumstances was vital because "every campaign presents some unforeseen challenge or circumstance" that requires a military to handle the ever-changing present.⁹² The authors identified dangers associated with the failure to adapt, and hailed successful changes⁹³ which led them to conclude "the ability to adapt is probably most useful to any military organization and most characteristic of successful ones."⁹⁴ But since Cohen and Gooch focused on military misfortune and how failure to adapt may contribute, their analysis stopped short from delivering a precise or comprehensive analysis on how operational performance may be enhanced by tactical change. Others then identified more specific criteria for assessing operational effectiveness and its relationship with battlefield outcome. Stephen Biddle consistently emphasized the role of human skill in employing forces and weapons, particularly the lethal effects of modern firepower.⁹⁵ After arguing in 1996 that the Gulf War outcome depended on a unique skill imbalance combined with new technology,⁹⁶ in 2004 Biddle introduced the nonmaterial variable of force

⁸⁹ Brooks, 7-8.

⁹⁰ Eliot A. Cohen and John Gooch, *Military Misfortune: The Anatomy of Failure in War* (New York, New York: Free Press, 1990); Mansoor, *The GI Offensive*; Pollack, *Arabs at War*.

⁹¹ Cohen and Gooch, 25, 133-164.

⁹² Cohen and Gooch, 27.

⁹³ Successful changes included U.S. advances in anti-submarine warfare, as well as the 1973 "brilliant adaptive capacities of Israeli commanders." Cohen and Gooch, 111.

⁹⁴ Cohen and Gooch, 94.

⁹⁵ Biddle, "Victory Misunderstood"; Biddle, *Military Power*; Stephen Biddle, "Explaining Military Outcomes," in Brooks and Stanley, 207-227.

⁹⁶ Biddle, "Victory Misunderstood," 139.

employment as an explanation for battlefield outcomes.⁹⁷ Assessing operations to control territory through mid-to-high intensity combat, Biddle concluded that the centrally important criteria for determining battle outcome was “the doctrine and tactics by which forces are actually used in combat.”⁹⁸ This perspective increased focus in 2007 when Biddle defined new criteria for influencing military outcomes by isolating the variable of skill in reducing vulnerability to firepower.⁹⁹ By emphasizing doctrine, tactics, and skill as key measures for combat outcome, Biddle could identify a category of elements that influenced performance. Other analysis would need to address remaining questions about specific variables in relation to outcome, and to evaluate performance with a deeper consideration of opponents’ actions and environments.¹⁰⁰

In 2007 Risa Brooks and Elizabeth Stanley delivered a more structured analytical approach to military effectiveness with several authors contributing insights regarding the influence of global and internal pressures.¹⁰¹ Brooks supported Biddle by concluding that effectiveness and victory must be considered separately, and that “studying military effectiveness is vital if we are truly to understand” the phenomenon of war.¹⁰² Brooks conceded that a great deal remained unknown and deserved additional attention. She encouraged further analysis to include a greater understanding of the cases associated with military effectiveness and wartime performance.¹⁰³ Caitlin Talmadge followed this call by delivering new indicators for assessing operational effectiveness and how wartime changes may contribute to battlefield success.¹⁰⁴ Assessing the Iraq–Iran War (1980–88) and fighting between North and South Vietnam (1954–1975), Talmadge distinguished two sets of tasks for grading operational effectiveness in accordance with Biddle’s

⁹⁷ Biddle, *Military Power*.

⁹⁸ Biddle, *Military Power*, ix.

⁹⁹ Biddle, “Explaining Military Outcomes,” 207–227. Biddle uses the term skill in accordance with the larger framework established by editors Brooks and Stanley, defined as “military personnel’s capabilities and motivation to perform essential tasks in preparing for and executing war.” It is isolated as one of the four attributes of military effectiveness along with integration, quality, and responsiveness. See Brooks and Stanley, 15; Biddle, “Explaining Military Outcomes,” 220, footnote 2.

¹⁰⁰ Biddle, “Explaining Military Outcomes,” 219.

¹⁰¹ Brooks and Stanley.

¹⁰² Brooks, Brooks and Stanley, 231–232.

¹⁰³ Brooks, Brooks and Stanley, 231–233.

¹⁰⁴ Talmadge, “The Puzzle of Personalist Performance”; Talmadge, *The Dictator’s Army*.

previous framework. She identified criteria across “basic tactics” and “complex operations” along with ratings of excellent, adequate, and poor.¹⁰⁵ With these definitions and benchmarks, Talmadge provided a valuable framework in what manner forces may perform differently, how these may be identified, and how to measure if performance changes.¹⁰⁶ A similar approach is used in this project for identifying observable battlefield events that may be categorized for measuring levels of operational effectiveness. It then uses this scale to identify changes in effectiveness during performance as compared across operations, forces, or time.

Benchmarks to Identify and to Rate Operational Effectiveness

Operational effectiveness can be measured in terms of three benchmarks of ability: basic skills, complex tactics, and sophisticated manoeuvre.¹⁰⁷ A force displaying only basic skills may be assessed to possess low effectiveness. Complex tactics, which incorporate basic skills, would indicate intermediate effectiveness. Incorporating basics skills into complex actions and applying them in sophisticated manoeuvre would signal high effectiveness. This range of benchmark indicators was selected by incorporating criteria from other analyses of military affairs and tailoring it according to the categories expanded from Talmadge. The levels and their criterial are seen in the following table and discussed further below.¹⁰⁸

¹⁰⁵ Talmadge, “The Puzzle of Personalist Performance,” 186; Talmadge, *The Dictator’s Army*, 7.

¹⁰⁶ However, Talmadge’s scope of analysis is wider than this study’s. She examined state-level threat environments and how they shaped organizational practices of authoritarian regimes and influenced military effectiveness. See Talmadge, *The Dictator’s Army*, 12-15.

¹⁰⁷ These benchmarks emulate Talmadge’s structure and indicators from her 2015 assessment of battlefield effectiveness, in accordance with Stephen Biddle’s outlook emphasizing vulnerability and firepower. This project’s research design is then supplemented by incorporating other criteria and is expanded with a third category to deliver increased precision. See Talmadge, *The Dictator’s Army*, 4-8. Additional criteria from Biddle, *Military Power*, and Pollack, *Arabs at War*.

¹⁰⁸ Table cites Biddle, *Military Power*, 40-42; Mansoor, *The GI Offensive*, 3-6; Millett, Murray, Watman; Millett and Murray, *Military Effectiveness, Vol. 1-3*; Pollack, *Arabs at War*, 4; Talmadge, *The Dictator’s Army*, 34; Talmadge, “The Puzzle of Personalist Performance,” 180-221.

Figure 1.2: Levels of Effectiveness

BASIC SKILLS Low Effectiveness	COMPLEX TACTICS Intermediate Effectiveness	SOPHISTICATED MANOEUVRE High Effectiveness
Basic small unit engagements Ambush, static defence, orderly retreat, planned attack (Talmadge, <i>Dictator's</i> , 34) Core combat skills - Unit cohesion - Disciplined tactical leadership - Information management - Technical skills - Weapons handling - Basic logistics - Routine maintenance (Pollack, <i>Arabs</i> , 4) Maintain core combat skills and proficiency in battles	Complex Actions Combined-arms; division-level actions; defence in depth; fighting withdrawal; counterattack; offensive manoeuvre (Talmadge, <i>Dictator's</i> , 34) - Information shared accurately; shapes events - Tactical leadership plans and conducts small unit actions within larger concept of operations - Responsiveness; low-level initiative and high-level coordination across multiple parts of a force	Breakthrough & exploitation operations Deep elastic defences (Biddle, <i>Military Power</i> 40-42) - Operations tailored to attack critical weakness with a strength - Consistent tactical leadership in complex, fluid unit actions - Tactical leadership and independent manoeuvre to support other elements

Basic skills reflect whether forces can maintain minimum proficiency in core abilities throughout battles emphasizing small unit engagements. Indicators include ambushes, static defence, orderly retreats, and planned attacks.¹⁰⁹ Minimum proficiency would include disciplined tactical leadership, simple information management, weapons handling, basic logistics, routine maintenance, and indicators of minimal unit cohesion.¹¹⁰ These abilities would most likely form during training and later serve as a wartime indicator of the minimal criteria for preventing failure since they may be considered prerequisites for modern ground warfare. Thus, they indicate only low effectiveness; alone the elements are unlikely to deliver operational success unless the adversary is grossly overmatched or woefully futile, while the absence of basic skills almost certainly will contribute to failure.¹¹¹

Complex tactics refer to the fundamental elements for executing mid-to-high intensity combined-arms. They require unique skill across tactical units and among

¹⁰⁹ Talmadge, *The Dictator's Army*, 34.

¹¹⁰ Criteria with slight changes from Pollack, *Arabs At War*, 4.

¹¹¹ Detrimental effects from poor basic skills displayed in Pollack, *Arabs at War*, 552-583.

higher commands to combine firepower and movement for desired outcomes. Also, they demand the ability to coordinate various units and weapons across time, space, and echelon. Complex tactics may be displayed through actions that synergistically apply weapons' effects, division-level operations, defence in depth, a fighting withdrawal, counterattack offensive manoeuvre, as well as low-level initiative combined with high level coordination. Executing complex tactics almost certainly requires tactical leadership to plan and conduct small unit actions, and information shared with commanders to shape events. This combination of integration, responsiveness, low-level initiative and high-level coordination across multiple parts of a larger force indicate intermediate effectiveness.¹¹²

Sophisticated manoeuvre indicates high operational effectiveness since it requires significant skill and should deliver decisive advantages. Breakthrough and exploitation operations, deep elastic defences, consistent tactical leadership in complex and fluid unit actions, as well as tactical leadership that independently manoeuvres to support other elements may be considered sophisticated in that they often require units to interact in a complex or intricate process for delivering firepower and movement.¹¹³ Combining simultaneous and sequential movement of units through time and space in relation to an adversary entails significant difficulty. This ability almost certainly requires units to coordinate actions that create imbalances and tailor powerful attacks against enemy weaknesses. Sophisticated manoeuvre reflects high skill as it reduces vulnerability to firepower, enables exploitation of opportunities to induce casualties, and facilitates movement to attain objectives with sustainable rates of casualties.¹¹⁴ In mid-to-high intensity ground warfare it should deliver decisive advantages since skilfully applying technology and resources reduces vulnerability and alters an environment to create new opportunities, destroy enemy forces, and rapidly seize key terrain through a combination of assessment, action, and reaction.

Rating operational effectiveness in this manner reflects two presumptions. First, that wartime performance as measured by the level of effectiveness

¹¹² Criteria and characterization of "complex operations" from Talmadge, *The Dictator's Army*, 4-6, 34.

¹¹³ Criteria from Biddle, *Military Power*, 40-42.

¹¹⁴ Conception of skill uses criteria from Biddle, "Explaining Military Outcomes," 207-208.

contributes to operational outcome. Second, that if a force's wartime performance displays new criteria or shifts to a higher level of effectiveness then it may indicate adaptation. Therefore, changes in benchmarks or ratings provide indicators and measures for assessing how, when, and how much tactical adaptation can alter effectiveness and influence outcomes. So, then: what exactly is a success or failure?

OPERATIONAL SUCCESS: EFFICIENTLY ATTAINING OBJECTIVES

"Competence on the battlefield saves time and conserves lives."¹¹⁵ The ability of combat units to attain operational goals while limiting its losses of lives and resources appears a fairly uncontroversial objective for military forces.¹¹⁶ Dangers from poor battlefield performance are numerous and costly.¹¹⁷ Yet despite this critical importance and enduring relevance, questions remain over what, exactly, is meant by success, and how, precisely, wartime tactical adaptation might contribute to it. Failure to address these questions may deliver an incomplete understanding about wartime performance and how it may be influenced. Therefore, one must ask what we consider a successful outcome.

Throughout this analysis, operational success is considered a combination of goals, costs, and time, defined as: *The ability to achieve assigned missions with acceptable expenditure of material and human resources according to planned times*. This definition prioritizes achieving one's operational goals as the most important criteria, followed closely by how well the forces performed in their pursuit as measured by costs and time. To evaluate success, first it will be asked: Did units achieve their primary operational objectives? And second: How efficiently did they perform?

Clearly, this project's definitions for operational success and operational effectiveness face a common, significant challenge: how to define criteria and to measure actions that occur relative to an adversary and also one's own goals,

¹¹⁵ John H. Cushman, "Challenge and Response at the Operational and Tactical Levels, 1914–1945," in Millett and Murray, *Military Effectiveness Vol. 3*, 322.

¹¹⁶ As summarized after twenty-one experts evaluated military effectiveness from 1914–1945: "first-rate operational and tactical performance is a virtue to be sought by those responsible for military forces." Cushman, 322.

¹¹⁷ Cohen and Gooch. See also Pollack's critique of "consistent and crippling" failures in tactical leadership, information management, weapons handling, and maintenance. Pollack, *Arabs at War*, 4–10, 574, 582.

timetables, and conceptualizations about what costs are reasonable or not. This requirement of a relative and subjective comparison means that most definitions tend to lose their capacity for universal applicability. Yet it would seem incomplete to ignore an adversary, or one's own objectives, when assessing combat performance. Thus, the challenges associated with measuring something relative to an adversary or one's own criteria appear to be a necessary burden when striving for analytical accuracy. Therefore, operational success requires this measure of efficiency for considering the objectives achieved, how skilfully they are attained, and at what cost. This perspective considers the way a military force uses its resources in pursuit of wartime goals as an essential element for assessing success, as long as forces are not grossly mismatched.¹¹⁸ In this view, executing the most appropriate methods for forces to attain goals quickly while limiting costs is vital; finding these methods may require changes when battlefield realities fail to meet expectations. Thus, the nature of warfare as a dynamic clash between adversaries seems to require an analysis of operational success to consider goals, efficiency, and effectiveness. A force displaying high effectiveness should attain objectives with fewer losses and at a faster rate than a force with lower abilities, increasing the likelihood of success. But intuition and assumptions are not the same a critical evaluation. Next these claims must be tested.

RESEARCH FRAMEWORK AND CASE STUDIES

The next chapter presents hypotheses and the following chapters test them through seven case studies of operations in Burma and India from 1942–45. Clearly, this limited number of cases and evidence cannot deliver a comprehensive theory about wartime change with universal applicability. Rather, findings should suggest several general conclusions about wartime tactical adaptation and its relationship with operational performance and outcome. To ignore these and what they suggest may invite unnecessary risks or costs. The subsequent implications may shape how adaptation should be considered, how it may be tailored, and the value in using

¹¹⁸ Perspective echoes assumptions in Martin van Creveld's work about intrinsic qualities of fighting power and measuring effectiveness, as well as Stephen Biddle's examinations about skilful implementation of forces to avoid attrition while attaining objectives. See Van Creveld; Biddle, *Military Power*; Biddle, "Explaining Military Outcomes."

effectiveness to evaluate changes during warfare. These ideas are explored through the following chapters. Chapter Two presents this study's three hypotheses and their development by drawing on core themes about military adaptation and broader security studies. Then, Chapters Three through Nine examine various British units fighting elements of the Imperial Japanese Army. Finally, Chapter Ten delivers some general principles about adaptation and their broader relevance for academic and policy research.

Within the main body of case studies, seven operations are examined, listed in greater detail below. These cases are relevant and appropriate for this project's research objective since they address core elements of wartime tactical adaptation and reflect central themes on the subject. Also, the cases possess several advantages for focused, structured comparative analysis. First, they present diverse values of tactical adaptation that should reveal distinct lessons about causality. Second, there are different results across the cases, from clear success to clear failure. Third, sufficient records and source materials exist to provide detailed information and deliver data-richness. Fourth, with variations across the independent and dependent variables, some cases provide examples where outcomes differ from what may be expected. Fifth, the cases are suited for controlled comparisons since they have similar characteristics in technology, ground-based tactics, size of forces, nature of objectives, and the cases all occurred within five years of each other. Finally, the cases share overlapping adversaries to provide useful comparisons.

Case Study 1 – Imperial Japanese Army Invades Burma, 1942. If wartime tactical adaptation enables operational success or prevents failure, then the failure to adapt by Imperial Japanese Army (IJA) Fifteenth Army attacking into Burma against the British Burma Army should result in operational failure.

Case Study 2 – First Arakan Offensive, September 1942 to May 1943. If wartime tactical adaptation enables operational success or prevents failure, then the failure to adapt by 14th Indian Division should result in operational failure when attacking Japanese defenders from the 213th Regiment in the Arakan peninsula.

Case Study 3 – Second Arakan Encounter, December 1943 to March 1944. If wartime tactical adaptation enables operational success or prevents failure, then Indian Army tactical adaptation should result in XV Corps operational success against IJA Twenty Eighth Army in northwest Burma in the Arakan peninsula.

Case Study 4 – Long Range Penetration Groups (LRPG), 1943. If wartime tactical adaptation enables operational success or prevents failure, then tactical adaptation by LRPG 77th Indian Brigade should result in operational success during Operation LONGCLOTH against IJA 18th Division in northern Burma.

Case Study 5 – LRPG Special Force, 1944. If wartime tactical adaptation enables operational success or prevents failure, then tactical adaptation by Special Force (3rd Indian Division LRPG) should result in operational success during Operation THURSDAY against IJA 18th Division near Indaw.

Case Study 6 – Imphal, March to July 1944. If wartime tactical adaptation enables operational success or prevents failure, then tactical adaptation by British Fourteenth Army should result in IV Corps operational success against IJA Fifteenth Army at Imphal in eastern India and northwest Burma.

Case Study 7 – Breakout to Meiktila, December 1944 to March 1945. If wartime tactical adaptation enables operational success or prevents failure, then tactical adaptation by British Fourteenth Army should result in operational success as it fought IJA Burma Area Army across the Irrawaddy River and down central Burma to Meiktila city.

Chapter 2

Hypotheses and Testing Adaptation

The U.S. Army asserts that “the side that learns faster and adapts more rapidly wins.”¹ To which this examination responds: How do we know? It may be easy to assume adaptation’s importance since both counterinsurgency doctrine² and manoeuvre warfare tenets³ prescribe adaptability as a core virtue. Comparably, the dangers of its omission appear numerous and severe. This risk endures perhaps most vividly in themes of the First World War that portray military leaders as unwilling to learn from their continued mistakes, therefore repeatedly sending thousands to die because they failed to understand how warfare had changed and no longer followed their deeply-held beliefs.⁴

Yet an unquestioning acceptance of claims that hail adaptation as essential also entails risks. At a minimum, it risks incomplete knowledge or misguided prescriptions without further refinement through testing and analysis. More dangerously, it risks lives and resources in combat. When Chinese forces crossed the Yalu River into North Korea during 1950, shocked U.S. X Corps forces suddenly had to fight toward the east coast. But rather than alter methods against the unexpected adversary, X Corps recovered and retreated by using established methods, techniques, and procedures. In this instance, disciplined tactics and an unwillingness to change almost certainly were essential to prevent disaster. On the opposite side of the peninsula, Eighth Army collapsed.⁵ This example indicates one of this project’s themes: that adaptation’s relationship with outcome is more complex than at first glance. Absolute statements may misrepresent what tactical

¹ *FM 3-24/MCWP 3-33.5 Counterinsurgency* (Washington, DC: Headquarters Department of the Army, 15 December 2006), p. x.

² “You’ve got to be learning and adapting constantly to survive.” General Peter J. Schoomaker, USA, 2004, quoted in *FM 3-24/MCWP 3-33.5*, ix.

³ NATO joint doctrine cites the Alliance posture as structuring itself “for the most likely operations with the agility to adapt to the most demanding.” North Atlantic Treaty Organization Allied Joint Publication (AJP)-01(D) *Allied Joint Doctrine* (United Kingdom, December 2010), p. 2-10. See also U.S. Army directive: “doctrine must be definitive enough to guide specific operations, yet remain adaptable enough to address diverse and varied situations worldwide.” *FM 100-5 Operations* (Washington, DC: Headquarters Department of the Army, June 1993), p. 1-1.

⁴ Robert Foley called this viewpoint an “enduring and widespread” myth of the First World War. Robert T. Foley, “Dumb Donkeys or Cunning Foxes? Learning in the British and German Armies During the Great War,” *International Affairs*, Vol. 90, No. 2 (2014), p. 279.

⁵ Eliot A. Cohen and John Gooch, *Military Misfortunes: The Anatomy of Failure in War* (New York: Free Press, 1990), pp. 165-196.

adaptation can or cannot deliver. To explore these ideas, this chapter considers themes about tactical adaptation and presents three hypotheses for their evaluation.

The hypotheses used throughout this project that are guided by two questions. First, under what conditions is wartime tactical adaptation more or less effective at changing operational performance? Second, how might different types of adaptation effect operational outcome? Drawing from studies on wartime adaptation, military innovation, and organization learning, this chapter explores elements of tactical adaptation regarding information mechanisms, adaptation type, and the nature of change. From these themes, the hypotheses will enable an evaluation of what conditions and types of tactical adaptation are more likely to deliver operational success. In the following chapters, these hypotheses will be tested across the case studies with an emphasis on the hypotheses most relevant and appropriate for each case, since not every case study can comprehensively address all the categories.

Three hypotheses will test the themes used in this project and discussed throughout the rest of this chapter. Hypothesis 1 (H1) considers information mechanisms, movement, direction, and dissemination. H1 states: “Tactical adaptation captured and disseminated through a centralized vertical mechanism is more likely to result in operational success than when shared across decentralized horizontal networks.” Hypothesis 2 (H2) considers adaptation type, specifically anticipation compared with improvisation. H2 states: “Tactical adaptation based on anticipation will outperform tactical adaptation based on improvisation in delivering operational success.” Hypothesis 3 (H3) considers the nature of change during tactical adaptation by comparing human skill with technology. H3 states: “Tactical adaptation based on new training or unit reconfiguration, rather than new or modified equipment, is more likely to result in operational success.”

As measured by observable analysis in the case studies, findings will be rated on a five-part scale: confirm, support, neutral, challenge, or contradict. Admittedly, these terms and their use will be quite subjective, and throughout this examination the hypotheses will be considered weak in that their exploration may deliver only weak predictive effects.⁶ Findings are unlikely to deliver an unequivocal forecast or an exclusive prediction, rendering the hypotheses with only

⁶ Criteria of strong tests versus weak tests from Stephen Van Evera, *Guide to Methods for Students of Political Science* (Ithaca, New York: Cornell University Press, 1997), pp. 31-32.

moderate certainty and uniqueness of prediction. However, examining these themes about types and conditions of adaptation as they relate to operational performance and outcome should deliver new evidence to join existing information and form probabilistic predictions regarding these phenomena. Additionally, findings should possess practical relevance regarding the employment and sustainment of forces.

H1: INFORMATION MECHANISMS

Over four hours in 1967 Israel destroyed a paralyzed Egyptian Air Force.⁷ The opening attacks of the Six Day War caught Egyptian pilots and senior commanders completely by surprise. The air commander, stuck in a transport plane, was unable to deliver orders. In the absence of formal directives, Egyptian defenders failed to take emergency procedures, and many refused basic defensive precautions.⁸ For several hours, air force leadership did not reveal that the force was destroyed; the army would not know until the next day. After Israeli ground attacks shattered Egyptian army forces through initiative, skill, and improvisation, the 1967 conflict appeared to offer a clear warning against centralized formal authority as it could hamper information movement, block solutions to immediate and obvious combat threats, and fail to disseminate essential information in a dynamic combat environment. If these mechanisms failed in such a scenario, then how could they provide any success in the longer term?

Yet the reality may be more complex, and failed execution may not always indicate a flawed concept. Upon closer examination, centralized, vertical mechanisms may possess unique virtues in information storage, integration, and recall, to capture and to disseminate lessons across organizations. These issues reflect a larger tension regarding how a military should design and implement mechanisms for information movement to enable improved combat performance. Implications would shape training, organizational priorities, resources, and what traits are most desired in personnel like initiative, discipline, accountability, authority, and obligation.

⁷ Paragraph relies on Kenneth M. Pollack, *Arabs at War: Military Effectiveness, 1948–1991* (Lincoln, Nebraska: University of Nebraska Press, 2002), pp. 62–70.

⁸ Pollack, 63.

H1 predicts an answer to the research questions: What type of information mechanisms are most effective for translating tactical adaption into operational success? How do different types of information movement, direction, and dissemination shape the quality of tactical adaptations and their impact on operational outcome? As a result, H1 states: “Tactical adaptation captured and disseminated through a centralized vertical mechanism is more likely to result in operational success than when shared across decentralized horizontal networks.” Testing H1 will evaluate how information mechanisms explain the relationship between wartime tactical adaptation and operational success.

H1 considers primarily how military organizations share solutions to current and future problems. H1 posits that a unique ability for new ideas to be captured, evaluated, retained, disseminated, and recalled in future scenarios all combine in centralized vertical mechanisms to enable superior tactical adaptation than decentralized horizontal networks. This information storage and recall enables diverse ideas to be compared and applied using formal authority across a wide breadth for high impact. In reality, ground warfare likely entails a combination of the two mechanisms. However, organizations appear to favour or prioritize one type over the other, and it is possible to isolate and to consider their individual merits, risks, and costs. The simple table below, on the next page, indicates some general characteristics to assist distinguishing between the networks.

Figure 2.1: Information Mechanisms and Network Characteristics

	CENTRALIZED VERTICAL	DECENTRALIZED HORIZONTAL
DIRECTION	Information moves up: collected, stored, evaluated above the combat unit.	Information moves across: within or across self-contained combat units.
LOCATION OR UNIT OF ANALYSIS	<ul style="list-style-type: none"> - Above the division (1914–1990) - Above the brigade (1991–Present) 	<ul style="list-style-type: none"> - Within or across divisions (1914–1990) - Within or across brigades (1991–Present)
NATURE OF COLLECTION AND SHARING	Formal, upward: <ul style="list-style-type: none"> - Official reports with systematic assessment to higher authority 	Informal, across: <ul style="list-style-type: none"> - Ad-hoc channels; personal networks - Official or unofficial reports with unsystematic assessments to various audiences
DISSEMINATION	Broad; general application of ideas and guidance across units	Specific; delivered in accordance with applicability or to select units
DISTRIBUTION	Directed by authority; command issues authoritative directives or doctrine	Endorsed by authority; guidance, suggestions, bulletins, lessons-learned, tips

Centralized Vertical Information Mechanisms

H1 relies on propositions that centralized control delivers superior quality of ideas with greater impact. This combination of more-appropriate solutions and wider relevance are due to a central mechanism’s capacity for study coupled with authority for implementation. Centralized vertical mechanisms may provide superior information storage, vetting, and recall for translating new tactics into larger operational significance. This overall capacity should enable adaptations that are a higher quality due to their evaluation and vetting, and more significant since they may be recalled and widely disseminated. H1 posits that adaptation shared through centralized vertical mechanisms will make more significant changes to operational effectiveness in nature and breadth than decentralized horizontal mechanisms.

Higher impact may be possible due to authoritative endorsement. In his assessment of wartime innovation, Stephen Peter Rosen observed that the “more hierarchical and centralized the organization, the greater the impact of the

innovation.”⁹ Once an organization has assembled a clear picture of a need then a central organization can implement it with the quickness necessary for impact.¹⁰ By exploring British attempts to incorporate tanks during the First World War, Rosen argued that a delayed implementation was caused by organizational shortcomings in defining an appropriate measure of effectiveness, failure to use the available information to evaluate ideas, and “the absence of tight central controls to ensure implementation.”¹¹ For Rosen, a centralized organization can implement innovations faster than a looser organization which lets ideas circulate and fails to direct a solution toward its highest need.¹²

Michael Doubler’s assessment of German and Soviet army learning indicated a high capability to overcome more significant challenges and to deliver substantial impact on combat effectiveness. In contrast, decentralized adaptations appeared most effective when only incremental change was required.¹³ For Doubler, the higher impact of a centralized mechanism resulted from its superior perspective and organizational power for addressing larger problem followed by more thorough dissemination. A “centralized and formal” technique uniquely allowed for study, dissemination, and implementation of new ideas,¹⁴ with advantages for addressing larger challenges often beyond the capacity of smaller combat units to overcome. The Soviet General Staff led major change by enabling a new way of fighting, possible largely due to its central authority of which there was no comparable attempt by the U.S. army.¹⁵ The formal body gathered, studied, and analysed lessons resulting in “a series of directives, regulations, and instructions to units on better ways to conduct operations.”¹⁶ Combined with new units and equipment, the Soviets experimented and transformed throughout 1943 and issued new directives in 1944 that “formed a comprehensive view of deep operations” and delivered devastating offensives against Germany and Japan.¹⁷

⁹ Stephen Peter Rosen, *Winning the Next War: Innovation and the Modern Military* (Ithaca, New York: Cornell University Press, 1991), pp. 38-39.

¹⁰ Rosen, *Winning the Next War*, 39.

¹¹ Rosen, *Winning the Next War*, 128.

¹² Rosen, *Winning the Next War*, 39.

¹³ Michael D. Doubler, *Closing With The Enemy: How GIs Fought the War in Europe, 1944–1945* (Lawrence, Kansas: University of Kansas Press, 1994), p. 281, 274.

¹⁴ Doubler, 278.

¹⁵ Doubler, 279.

¹⁶ Doubler, 276.

¹⁷ Doubler, 277.

A high quality of improvements delivered through central collection, storage, evaluation and dissemination was also displayed by the German army. After invading Poland the German army high command (*OKH*)¹⁸ conducted robust analysis and altered tactics which enabled them to be “devastating on the battlefield.”¹⁹ Large-scale collection of after-action reports suggested weaknesses in tactical combined-arms coordination and small-unit leadership, leading *OKH* to create a new training program implemented over six months.²⁰ The retraining, reorganizing, and reequipping increased skills across various active and reserve units, and overcame lingering resistance to the value of mechanization and armour.²¹ *OKH* established monthly evaluation reports for division and corps commanders,²² and the German army’s performance afterwards reflected a larger institutional emphasis on large-scale collection, analysis, and dissemination through centralized vertical mechanisms.²³ The *OKH*-led improvements have been hailed as an exemplar of professionalism that directly contributed to subsequent victories.²⁴ Furthermore, the internal assessments and dissemination proved “central to the remarkable early triumphs” of the German army, allowing it “progressively to enhance its combat capabilities” by refining and improving²⁵ through a larger commitment to centralized assessment, experimentation, institutional dissemination.²⁶ This commitment continued after the operations in France revealed how armour formations required more infantry support, causing *OKH* to reorganize panzer formations which improved combined-arms.²⁷ German ground forces

¹⁸ The German army high command was named *Oberkommando des Heeres (OKH)*. Practically the *OKH* was directly under Adolf Hitler along with navy and air force high commands. Technically the army was subordinate to the armed forces high command, the *Oberkommando der Wehrmacht (OKW)* but it had “no command function, nor did it provide any guidance to the services, unless as Hitler’s direction.” Allan R. Millett and Williamson Murray, *A War to be Won: Fighting the Second World War* (Cambridge, Massachusetts: Harvard University Press, 2000), p. 44.

¹⁹ Millett and Murray, *A War to be Won*, 54.

²⁰ Millett and Murray, *A War to be Won*, 54-55.

²¹ Russell A. Hart, *Clash of Arms: How the Allies Won in Normandy* (Norman, Oklahoma: University of Oklahoma Press, 2001), p. 196.

²² Williamson Murray, “The German Response to Victory in Poland: A Case Study in Professionalism,” *Armed Forces and Society*, Vol. 7, No. 2 (Winter 1981), p. 289.

²³ Allan R. Millett and Williamson Murray, eds., *Military Effectiveness Volume 3: The Second World War*, New Edition (New York: Cambridge University Press, 2010), p. 209, first published 1988.

²⁴ Murray, “The German Response to Victory in Poland,” 295.

²⁵ Hart, 195-196.

²⁶ Williamson Murray, *Experimental Units: The Historical Record*, Institute for Defense Analysis Paper P-3684 (Alexandria, Virginia: Institute for Defense Analysis, 2002).

²⁷ Hart, 199-200.

continued to employ formal, centralized processes to adapt and increase proficiency which gradually shifted to overcoming setbacks as the war progressed. New ideas often originated in tactical units, but it was the *Ostheer*, *Heer*, or *OKH*, that could assemble ideas, evaluate their appropriateness, consider campaign-level challenges, and then disseminate lessons with new training to implement them across forces.²⁸

Eastern Front fighting required the German army's most significant adaptations as combat challenges and the environment "rendered existing doctrine inadequate."²⁹ New defensive doctrine represented the *Heer*'s "most significant change" as distances required forces to abandon defence in depth for linear defences.³⁰ The altered procedures to extend defenders beyond strongpoints coupled with immediate counterattacks led the *Heer* to create massed defensive fire plans, with challenges identified and solutions disseminated through revised training directives.³¹ New anti-tank doctrine, combined with accelerated tank modifications and development, delivered vital capabilities for countering Soviet armour.³² Eventually, the 1942 Soviet counterattacks ground to a halt against German defenders who had "quickly improved its defensive and winter warfare capabilities" through experimentation and "rapid dissemination of after-action reports."³³

By 1944 the *Heer* had become "quite different in organization, tactics, equipment, training, and character"³⁴ due to its ability to examine combat performance and disseminate lessons. From 1943–44 *Heer* adaptation "became more systematic and widespread" which transformed the army's character and improved combat power.³⁵ Revised defensive doctrine included swamp and forest fighting, and increasingly relied on fortifications and linear defence.³⁶ Gradually the army had to substitute firepower for its lost mobility due to dwindling resources, notably in North Africa and in Western Europe. Manoeuvre warfare became "a luxury the *Heer* could no longer afford," so by 1944 the army had altered combat

²⁸ The term *Heer* references the entire German army, which was further divided geographically into the western *Westheer* and eastern *Ostheer*. All remained under the *OKH*.

²⁹ Hart, 204.

³⁰ Hart, 214.

³¹ Hart, 208.

³² Hart, 208.

³³ Hart, 207.

³⁴ Hart, 213.

³⁵ Hart, 214.

³⁶ Hart, 216

purposes to rely on firepower, static fortifications, and counterattacks.³⁷ Ultimately, of course, Germany “found itself increasingly outnumbered and outgunned.”³⁸ But the army’s adaptability consistently addressed shortcomings in combat performance with significant results.

These examples of German and Soviet learning reflect how an increased degree of centralization may enable greater and more efficient exploitation of core competencies. In a military force, these core acts would include refining or modifying tactics, techniques, or procedures.³⁹ According to this logic, a military organization using a centralized vertical information mechanism can effectively prioritize its desired competencies and then allocate resources appropriate for their improvement. Additionally, the authority to ensure compliance and the longevity to sustain these actions over a longer period may support enduring solutions. Finally, focusing on overall organizational needs may prove more effective at addressing larger challenges, while avoiding changes based on local conditions that may favour short-term solutions—a critique of other information mechanisms.⁴⁰

Decentralized Horizontal Information Mechanisms

Proponents of decentralized horizontal networks may hail increased creativity, reduced barriers to sharing, and quicker information movement for enhanced adaptation and broader learning. Vitally, advocates of a decentralized, informal learning process can cite examples of its benefits across various contexts to include attrition in the First World War, combined-arms in the second, and modern-era counterinsurgency. Yet this process also entails risks, notably organizational forgetting, a limited impact, and low-quality solutions.

Uniquely appropriate solutions to unfolding tactical realities were displayed in Robert Foley’s assessment of First World War German army innovation.⁴¹

³⁷ Hart, 230.

³⁸ Hart, 230.

³⁹ General tenets of organizational theory, centralization, and the impact on exploitation versus exploration in military adaptation is from Theo Farrell, “Improving in War: Military Adaptation and the British in Helmand Province, Afghanistan, 2006–2009,” *The Journal of Strategic Studies*, Vol. 33, No. 4 (August 2010), pp. 570–571.

⁴⁰ Farrell, “Improving in War,” 573. See also Alexander Cooley, *Logics of Hierarchy: The Organization of Empires, States, and Military Occupations* (Ithaca, New York: Cornell University Press, 2005), p. 45, cited in Farrell, 573, footnote 24.

⁴¹ Robert T. Foley, “A Case Study in Horizontal Military Innovation: The German Army, 1916–1918,” *The Journal of Strategic Studies*, Vol. 35, No. 6 (December 2012), pp. 799–827.

Argued to represent a new form of horizontal innovation, German changes depended on “spreading knowledge *between* units rather than *up and down* the chain of command.”⁴² This movement reflected how “new, informal doctrine is formed by units learning from one another, rather than from centrally produced doctrine.”⁴³ While Foley discussed how the German army also relied on formal learning processes,⁴⁴ he argued that forces “used the experiences of other units to change in the way in which it fought and consequently instituted what amounted to radically different doctrine in the course of battle.”⁴⁵ This process resulted in “continuous transformation,” and as early as November 1916 the German model proved essential for quickly producing new tactics and technologies while fighting a “constantly changing enemy threat.”⁴⁶

Separately, authors hailed a U.S. approach that relied on decentralized and informal processes. Michael Doubler praised an American “informal approach” during the Normandy Campaign to combine arms effectively for “its highest levels of performance and capabilities.”⁴⁷ Doubler concluded that this approach, which specifically “eschewed centralized control,” was a key reason for larger success because “it proved itself capable of quickly adapting to new and sometimes unexpected circumstances.”⁴⁸ As combat revealed shortcomings, American forces “implemented an unusual variety of tactical and technical innovations” that improved performance through ideas that “sprang from all units and ranks and spread throughout the commands in theater.”⁴⁹ Citing revised air–ground battle teams, new techniques for river crossings and urban warfare, bunker tactics, and hedgerow fighting, Doubler concluded that the decentralized technique displayed how armies require and can deliver “the ability to change quickly and to adapt their combat techniques in order to win.”⁵⁰ Russell Hart argued that a U.S. ability to learn quickly and to adapt using an “informal, decentralized learning process” was vital

⁴² Foley, “A Case Study in Horizontal Military Innovation,” 799. Italics in original.

⁴³ Foley, “A Case Study in Horizontal Military Innovation,” 803.

⁴⁴ Robert Foley, “Dumb Donkeys,” 281.

⁴⁵ Foley, “A Case Study in Horizontal Military Innovation,” 803.

⁴⁶ Foley, “A Case Study in Horizontal Military Innovation,” 802-803.

⁴⁷ Doubler, *Closing*, 6, 3.

⁴⁸ Doubler, *Closing*, 6, 3.

⁴⁹ Doubler, *Closing*, 4-5.

⁵⁰ Doubler, *Closing*, 5.

for success.⁵¹ Hart cited improved firepower, mobility, combined-arms warfare, and air-ground operations between the North Africa and the Normandy campaigns as indicating an ability to learn that was “most important” for increasing capabilities.⁵² Bottom-up innovation enabled the army to overcome difficulties and to improve combat performance, and this learning “was central to both the triumph of U.S. arms and to Allied victory in Normandy.”⁵³

Others examined British Army performance and its approach to learning and doctrine as it related to wartime change during the Second World War. Since the early 2000s, multiple authors determined that the British Army displayed wartime learning but disagreed about the scale or quality of change. Several concluded that the army successfully employed a flexible, problem-solving approach that improved effectiveness and reduced costs, indicating how a looser, decentralized approach can exploit reduced barriers to change both quickly and creatively in some situations.

In his 2000 analysis of British doctrine and training, David French argued that the army employed a loose framework with flexibility that enabled it to overcome pre-invasion shortcomings and to develop highly effective tactics and operations. This ability was particularly impressive and important since, despite time and opportunities to learn before the Normandy invasion, the British Army had failed to create or to impose throughout the force an appropriate doctrine for fighting in Northwest Europe.⁵⁴ This shortcoming produced numerous initial costly setbacks which required forces to learn while reacting during combat. For French, the shortcomings were twofold: the army possessed neither a universal interpretation of doctrine nor a single guiding force to impose a uniform understanding of doctrine had it existed. Thus it was unclear what should be done or, if known, how to incorporate the solutions. Combat quickly revealed deficiencies in combined-arms tactics but structural challenges within the army’s approach to doctrine meant that even when problems were analysed and lessons identified there remained a practical inability to impose prescriptive action. This problem was solved, according to French, by the leadership of General Montgomery and his approach to doctrine as it

⁵¹ Hart, 92.

⁵² Hart, 92.

⁵³ Hart, 271.

⁵⁴ David French, *Raising Churchill’s Army: The British Army and the War Against Germany 1919–45* (Oxford: Oxford University Press USA – Oxford Scholarship Online, 2000), pp. 279-280.

related to performance. As 21st Army Group incorporated Montgomery's general framework for fighting and commanders understood expectations, the force created a flexible communication system for acting within that concept. Then the army improved training to meet those standards which also enabled tactical commanders to make decisions within the larger doctrinal framework. As a result, the British Army improved combat capabilities and employed weaponry both efficiently and effectively. By incorporating a loose structure of doctrinal understanding implemented by a strong commander and inculcated through new training, "by 1943–5, the British had become highly competent in many aspects of waging war at the tactical and operational level."⁵⁵

Canadian learning also indicated how a flexible approach to doctrine and change could improve capabilities and performance, displayed through actions before invading Northwest Europe and during the Normandy Campaign. Writing in 2003, Terry Copp argued that past analyses of Canadian performance continued to rely on a faulty premise that underrated combat ability and contribution to victory.⁵⁶ Rather, Canadians played a key role among Allied soldiers that employed "flexible and innovative operational and tactical solutions to the challenges confronting them."⁵⁷ The virtues of these tenets and the willingness to improve could be seen as early as 1941, when Calgary Highlanders initiated battle drills and created combat-simulation training areas, inspiring similar schools and training in England and Canada. By 1944, additional training and reorganized infantry battalions had evolved to fight using a bite-and-hold concept, providing a shared understanding of what should be accomplished, although the specific tenets remained uncoded. This approach reflected how Canadian forces lacked a coherent tactical doctrine, requiring setbacks to be addressed by a problem-solving approach that proved "an effective method of dealing with the enemy."⁵⁸ Robert Engen supported this finding, concluding in 2009 that Canadian tactics revealed how infantry "were capable of flexible responses to the problems presented on the battlefield."⁵⁹ This

⁵⁵ French, 282.

⁵⁶ Terry Copp, *Fields of Fire: The Canadians in Normandy* (Toronto: University of Toronto Press, 2014), p. 13, second edition, originally published 2003.

⁵⁷ Copp, *Fields of Fire*, 13.

⁵⁸ Copp, *Fields of Fire*, 29.

⁵⁹ Robert Engen, *Canadians Under Fire: Infantry Effectiveness in the Second World War* (Montreal: McGill-Queen's University Press, 2009), p. 145.

ability was displayed during night attacks that required small-unit initiative; patrols and raids; and how forces applied fire-and-movement within the bite-and-hold concept.⁶⁰ For Engen, these examples of tactical change were particularly impressive when considering how Canadian doctrine limited the overall capacities of small-unit leaders. Ultimately, he concluded that “it seems doubtful that Canadians could have done much better than they did.”⁶¹

John Buckley argued that British Army forces learned fast and well with “a high degree of success” in Northwest Europe.⁶² The army’s performance demonstrated “a good deal about its flexibility, adaptability and its modern attitude to warfare,” with Buckley’s 2010 and 2013 works directly challenging arguments that the force failed to grasp modern warfare.⁶³ Rather, the British Army’s flexible attitude towards doctrine enabled a unique and effective problem-solving approach that encouraged units to create new solutions, to impose them throughout the force, and to adapt according to new combat conditions. The most important changes addressed combined-arms coordination against German defences, when pre-invasion assumptions proved false. Vital was developing new armour-infantry and infantry-artillery tactics against dug-in German defenders who, it was assumed incorrectly, would retreat to terrain more favourable for manoeuvre. The result was that, by late August 1944, “officer and NCOs had recast a range of tactical doctrines, and senior commanders had modified their operational methods to cope with the German strategy of digging in and slugging it out.”⁶⁴

This flexible approach allowed the British Army to change when pre-invasion expectations proved wrong. Unlike the Germans, who adhered to standard processes even when they proved ineffective and suffered disproportionate casualties, 21st Army Group avoided being stuck within a system when combat revealed how fundamental concepts were flawed.⁶⁵ Three interrelated challenges faced frontline units during the first days of the invasion: that lessons based on the

⁶⁰ Engen, 145.

⁶¹ Engen, 74.

⁶² John Buckley, *Monty’s Men: The British Army and the Liberation of Europe, 1944–45* (New Haven and London: Yale University Press, 2013), p. 183.

⁶³ Buckley, *Monty’s Men*, 183; see also John Buckley, “Tackling the Tiger: The Development of British Armoured Doctrine for Normandy 1944,” *The Journal of Military History*, Vol. 74, No. 4 (October 2010), pp. 1161–1184.

⁶⁴ Buckley, *Monty’s Men*, 183.

⁶⁵ Buckley, “Tackling,” 1182.

Mediterranean and North Africa were inappropriate for Northwest Europe; the terrain and defenders were different than anticipated; and combat units had to address problems while fighting skilled German defenders. Key to addressing these challenges was a perspective that doctrine served as a starting point for refinement to fit circumstances, interpreted through “a culture of doctrinal flexibility, bordering a times on indiscipline.”⁶⁶ Granted, this approach had trade-offs and limitations; British units lacked interchangeability, and even when adaptations occurred the army’s “laissez-faire attitude to the imposition of doctrine had also resulted in an uneven adoption of suitable fighting techniques.”⁶⁷ However, overall, this flexible and problem-solving approach reaped large benefits as it allowed forces to assess problems quickly, to change fast, and to develop practical solutions for many of the tactical problems faced in a process “both top-down and bottom-up.”⁶⁸

Benefits of this style were displayed when adapting combined-arms cooperation, where “British armoured forces actually demonstrated considerable flexibility and adaptability” and produced impressive results both quickly and efficiently.⁶⁹ German defenders in dense, compartmented terrain caused many problems and placed a premium on infantry-armour cooperation. Simply locating defenders proved quite difficult and the terrain slowed tempo, limited options, and rendered many methods inappropriate. Division commanders responded by combining infantry and armour brigades into mixed forces with two infantry battalions and two armour regiments, a change adopted by Eighth Corps as well as Canadian and Polish units. To maintain tactical speed when joined by slower-paced infantry, troops started to ride tanks and then commanders altered self-propelled tracked artillery for use as armoured personnel carriers. For attacking against prepared defences, the sequential method advocated by Eighth Army was “found wanting in close terrain,” as the procession of tanks, infantry, tanks, and artillery failed to reveal entrenched defenders, causing attackers to move too deep and into easy encirclement.⁷⁰ The answer was close coordination of infantry and armour during the assault, a new tactic employed by several brigades in late June and July,

⁶⁶ Buckley, “Tackling,” 1176.

⁶⁷ Buckley, *Monty’s Men*, 301.

⁶⁸ Buckley, *Monty’s Men*, 301.

⁶⁹ Buckley, “Tackling,” 1179.

⁷⁰ Buckley, “Tackling,” 1180.

and “from late July onwards, armoured forces had settled on tactical approaches that served them best.”⁷¹ Thus, by early August, British forces developed and applied new methods and approaches, “even if unevenly in place across the army.”⁷² Uniquely, these achievements occurred without a single, standard doctrine rigorously enforced, relying instead on a culture of problem-solving that allowed commanders to create working solutions when faced with problems—and to do so “more immediately than if a rigorous conformity to official methods had been endemic.”⁷³ The resulting solutions were transmitted both formally and informally, particularly for low-level tactical issues. Overall, British Army units “were quite able to adapt, and problems were largely mitigated as the campaign unfolded.”⁷⁴

Supporting this favourable assessment, in 2015 Charles Forrester argued that the British Army successfully created a shared understanding of concepts and expectations throughout a cadre of commanders uniquely appropriate for this approach. This process delivered advantages over German defenders and produced broader changes that resulted in a uniform doctrine of concepts and approaches by late 1944 that were highly effective.⁷⁵ For Forrester, a key difference existed between developing shared concepts and prescribing uniform tactics. He argued that studies emphasizing specific tactics and methods have misunderstood the British Army’s relationship with doctrine, how it enabled effectiveness, and how it contributed to success. Rather, in Forrester’s interpretation, a relatively undisciplined regard for doctrine was essential to develop commanders with problem-solving approaches to battlefield challenges, critical for addressing new and unexpected combat realities. Vitally, this loose regard for common practices allowed units to quickly disregard tactics from North Africa that proved inappropriate in Northeast Europe. It also enabled 21st Army Group to implement a command structure and to select commanders that would use a problem-solving approach within a wider, rigid framework of expectations.⁷⁶ Within this non-negotiable framework, leaders—

⁷¹ Buckley, “Tackling,” 1179-1182.

⁷² Buckley, “Tackling,” 1180.

⁷³ Buckley, “Tackling,” 1182.

⁷⁴ Buckley, “Tackling,” 1182.

⁷⁵ Charles Forrester, *Monty’s Functional Doctrine: Combined Arms Doctrine in British 21st Army Group in Northwest Europe, 1944–45* (Warwick, England: Helion & Company Limited, 2015), p. 187.

⁷⁶ Forrester, 180.

usually at the division—would decide how to fight and they could find their own answers to battlefield challenges. Then they could share the solutions using both formal and informal communication systems. This doctrine functioned well by encouraging quick-thinking within the goals of the master plan, enabled by having the appropriate personnel.⁷⁷ The key was not to impose uniform tactics throughout the force, but to impose uniform understanding about expectations and processes for making decisions within a shared framework about intentions and aims.⁷⁸ Thus, by late 1944, this style of “reciprocal command” allowed 21st Army Group to move “from a situation of doctrinal ‘anarchy’ to one of doctrinal uniformity.”⁷⁹

Regarding counterinsurgency operations, John Nagl’s assessment of efforts in Malaya and Vietnam cited informal, decentralized information movement as vital for driving innovation with superior ideas and broad impact. Evaluating British and U.S. forces, Nagl argued that local solutions were key criteria for militaries to be considered learning institutions.⁸⁰ Information movement across informal networks without the interference of higher or official authority delivered a core strength of British army operations in Malaya and uniquely enabled adaptation. As a result, “informally developed ‘doctrine’ was disseminated by word of mouth and through unofficial writing of participants in campaigns.”⁸¹ This led to a culture that “not just encouraged but actively expected innovation.”⁸² In contrast, U.S. Army efforts in Vietnam failed to overcome a predisposition for conventional, attrition-based doctrine, due to formal authorities actively discouraging innovation among subordinates.⁸³ In this perspective, the formal information mechanism directly undermined adaptation by failing to evaluate new ideas, blocking the transmission of superior ones, and authoritatively disseminating inappropriate solutions for the challenges faced.

Yet decentralized mechanisms risk missed opportunities for larger learning, as well as losing what solutions they do create. Some have criticized the British

⁷⁷ Forrester, 183.

⁷⁸ Forrester, 184.

⁷⁹ Forrester, xvii.

⁸⁰ John A. Nagl, *Learning to Eat Soup with a Knife: Counterinsurgency Lessons from Malaya and Vietnam* (Chicago, Illinois: University of Chicago Press, 2005), p. 10, updated edition, originally published in 2002.

⁸¹ Nagl, 221.

⁸² Nagl, 221.

⁸³ Nagl, 116.

Army approach, concluding that the costs and deficiencies warrant a more critical assessment regarding wartime performance and measuring effectiveness. Writing in 2000, Timothy Harrison Place considered doctrine and training, concluding that the British Army's approach produced a larger resistance to adapting even when new ideas emerged. Place argued that the British Army "failed to establish and enforce a coherent and effective tactical doctrine," failed to learn or to adapt, and found training insufficient and inappropriate for battlefield realities.⁸⁴ This shortcoming arose from deeper structural shortcomings in the army: leadership struggled to learn lessons even after revealed through combat, and any lessons they identified could not be imposed throughout the force due to insufficient mechanisms for implementing broader change. These problems were not caused by only a few commanders; rather, they resulted from an organizational culture that "excelled at planning for foreseeable eventualities" but struggled against the unexpected.⁸⁵ The results were costly, "unpredictable, minor events on the ground that collectively deprived British troops of many a victory in Normandy."⁸⁶ Place notes the "enterprise and initiative demonstrated by thousands of British soldiers," but concludes that these qualities emerged "despite, rather than because of, the training system."⁸⁷

Others, also critical, concluded that British Army adaptation tended to occur "on a unit-by-unit basis based on individual units' experiences" which ultimately failed to deliver larger change.⁸⁸ One author concluded that British forces adapted slowly, with less focus, and "ultimately proved less effective."⁸⁹ For example, British failure to retain and spread new counter-mortar groups illuminated "the army's slowness in learning from experience" along with challenges associated with informal decentralized learning networks.⁹⁰ After forces in North Africa endured high casualties due to German mortars, units organized new counter-mortar groups that "proved effective in the Mediterranean and saved many lives."⁹¹ The new organization executed a new mission under new conditions and reduced casualties in

⁸⁴ Timothy Harrison Place, *Military Training in the British Army, 1940–1944: From Dunkirk to D-Day* (London: Frank Cass, 2000), p. 168.

⁸⁵ Place, 173.

⁸⁶ Place, 173.

⁸⁷ Place, 173.

⁸⁸ Hart, 329.

⁸⁹ Hart, 327.

⁹⁰ Hart, 327.

⁹¹ Hart, 327.

accomplishing objectives—a clear definition of increased effectiveness. However, once withdrawn from theatre the units disbanded their counter-mortar teams and the army failed to institutionalize them or their methods. Subsequent units arrived at Normandy “without a counter-mortar organization, with the result that German mortars inflicted 70 percent of total casualties during June and July.”⁹² The army’s lack of formal mechanisms to evaluate and disseminate combat lessons was deemed a significant contributing factor in “preventing it from deriving appropriate lessons.”⁹³

This risk of lost solutions was echoed later by Nina Kollars.⁹⁴ Evaluating new methods for U.S. convoy defence in Vietnam and Iraq, Kollars posited that decentralized networks produced multiple solutions in patternless exchanges which must be translated into practices by central networks.⁹⁵ Kollars concluded the gun truck innovations developed in Vietnam were lost due to this lack of central authority, whereas similar modifications later in Iraq could endure due a centralized network of theatre-based locations for modifications and training.⁹⁶ Kollars argued that the difference between learning new solutions and keeping them depended on a central mechanism to capture, refine, and distribute the new methods, techniques, or procedures. Sergio Catagnani similarly concluded that informal information sharing may be lost through organizational forgetting.⁹⁷ Assessing British counterinsurgency operations in Afghanistan since the mid-2000s, Catagnani found that informal learning systems could undermine their institutionalization and therefore cause an organization to “lag behind in terms of process and disseminating operationally current and specific knowledge for units.”⁹⁸ The lack of a formal, central mechanism can produce “traps” for lost solutions or people leave units and “that unit may forget

⁹² Hart, 327.

⁹³ Hart, 327.

⁹⁴ Kollars presented a hybrid approach to adaptation that combines centralized, vertical mechanisms with decentralized, informal ones. See Nina A. Kollars, “War’s Horizon: Soldier-Led Adaptation in Iraq and Vietnam,” *The Journal of Strategic Studies*, Vol. 38, No. 4 (January 2015), published online 2014, pp. 1-25; Nina Kollars, “Military Innovation’s Dialectic: Gun Trucks and Rapid Acquisition,” *Security Studies*, 23 (2014), pp. 787-813; Nina Kollars, “Organising Adaptation in War,” *Survival*, Vol. 57, No. 6 (December 2015–January 2016), pp. 111-126.

⁹⁵ Kollars, “War’s Horizon,” 10.

⁹⁶ Kollars, “War’s Horizon,” 17, 20-21.

⁹⁷ Sergio Catagnani, “Coping With Knowledge: Organizational Learning in the British Army?” *The Journal of Strategic Studies*, Vol. 37, No. 1 (2014), p. 32.

⁹⁸ Catagnani, “Coping With Knowledge,” 31.

insights gathered through adaptation.”⁹⁹ Thus informal networks can move information quickly, but they may lack the capacity to retain and to disseminate solutions effectively. Without organizational incorporation or institutionalization of new knowledge then gains are more likely to be short-lived.

In addition, decentralized mechanisms may suffer from reduced impact even when ideas are good. Stephen Peter Rosen cited U.S. submarine warfare during the Second World War as suffering from a lack of centralized direction when it had to shift from targeting Japanese battlefleet forces to merchant shipping.¹⁰⁰ This change required a fundamental revision of mission and the old tactics had to be abandoned.¹⁰¹ Near-term changes occurred through strict quotas accompanied by large-scale removal of commanders but failed to deliver change of greater significance due to high command’s inability to define appropriate new goals. As quotas and firings promoted commanders skilled with the new tactics and removed those without, U.S. submarine anti-shipping warfare increased effectiveness (yet missed delivering the larger impact of which it was capable). The submarine force’s decentralized nature created challenges for implementing change since the necessary larger revision of endorsing a new way of operations “had to be made in a centralized context” which it lacked.¹⁰² While decentralized organizations may favour innovation since they possess autonomy and capacity to conduct all functions required for innovation, they would still operate with a slower effective speed than a centralized organization which can target and direct new ideas.¹⁰³

Israel Defense Force (IDF) informal horizontal learning also indicated challenges for high-impact adaptation. Niccolò Petrelli concluded that Israel's mechanisms were insufficient for adapting to low-intensity conflict from 1987–2005.¹⁰⁴ For Petrelli, new ad-hoc units and missions enabled the sharing of information and ideas, along with improved knowledge management, to diffuse

⁹⁹ Catignani, “Coping With Knowledge,” 38.

¹⁰⁰ Rosen, *Winning the Next War*, 130-147.

¹⁰¹ Instead of emphasizing hiding and avoiding detection, submarines now had to find merchant ships and attack which required “tactics that were wildly dangerous by prewar standards.” Rosen, *Winning the Next War*, 138.

¹⁰² Rosen, *Winning the Next War*, 133.

¹⁰³ Rosen, 39.

¹⁰⁴ Niccolò Petrelli, “Deterring Insurgents: Culture, Adaptation and Evolution of Israeli Counterinsurgency, 1987–2005,” *The Journal of Strategic Studies*, Vol. 36, No. 5, pp. 666-691.

“techno-tactical conduct” of low-intensity conflict.¹⁰⁵ However, the IDF continued to struggle with overall operational effectiveness due to “difficulties in promoting the assimilation of a broader conceptual grasp.”¹⁰⁶ IDF units continued to execute missions according to routine procedures, and Petrelli argued that this shortcoming indicated how the IDF suffered from a “cognitive gap” where units continued to employ traditional concepts despite their limited appropriateness or effectiveness.¹⁰⁷ Ultimately, the IDF failed to produce larger success because it fell short of delivering a new understanding of how to fight as required for operational success. Similarly, Raphael Marcus’s assessment of IDF tactical change suggested how informal learning processes may hinder larger change.¹⁰⁸ Examining Israel learning from 2000–06 through engagements with Hizballah, Marcus delivered a favourable assessment of IDF adaptation but assessed that its impact was undermined since “flexible and informal organizational culture can occasionally backfire without proper oversight and generalship.”¹⁰⁹

Thus, the implications for H1 are that if the perspective favouring centralized vertical mechanisms is correct then findings should support H1. Consequently, analysis should reveal that tactical adaptation based primarily on storing, evaluating, and disseminating new techniques, procedures, or methods is likely to increase effectiveness and result in operational success.

H2: ADAPTATION TYPE

After facing close-range surprise attacks by Japanese forces in the jungles of Borneo and Malaya, Allied forces implemented counter-ambush techniques to react instinctively against the unexpected assaults.¹¹⁰ Units practiced immediate action drills to react quickly when caught unaware. In the jungles, the “prearranged battle drills so often held the key to success” as anticipation reduced confusion and increased combat effectiveness by specifically and purposefully eliminating the

¹⁰⁵ Petrelli, 679.

¹⁰⁶ Petrelli, 682.

¹⁰⁷ Petrelli, 686, 684.

¹⁰⁸ Raphael Marcus, “Military Innovation and Tactical Adaptation in the Israel-Hizballah Conflict: The Institutionalization of Lesson-Learning in the IDF,” *The Journal of Strategic Studies*, Vol. 38, No. 4 (2015), pp. 500-528.

¹⁰⁹ Marcus, 521.

¹¹⁰ John P. Cross, *Jungle Warfare: Experiences and Encounters* (London: Arms and Armour, Artillery House, 1989), pp. 208-209.

opportunity to consider alternatives or to improvise.¹¹¹ This scenario required adjusting the balance between improvisation and anticipation to overwhelmingly prioritize the latter. However, the tension between these inherently elements entails merits, risks, trade-offs, costs, and characteristics that may be more complex than initially assumed. Anticipation is characterized by action in preparation for something that is expected or may happen.¹¹² Improvisation invents or makes something new at the time when it is needed without prior planning.¹¹³ In practice, this balance between preparation and invention may reinforce each other or occur in combination, but still it may be possible to isolate their individual merits for analysis. This consideration is necessary to evaluate how each may impact tactics and operations, either from a single event or through aggregate actions. H2 evaluates these degrees of relevance and therefore which type is more likely to deliver superior tactical adaptation.

H2 predicts an answer to the research question: What type of tactical adaptation is more likely to result in operational success—when based primarily on preparation before use, or creation when required? As a result, H2 states: “Tactical adaptation based on anticipation will outperform tactical adaptation based on improvisation in delivering operational success.” Testing H2 will evaluate how adaptation type explains the relationship between wartime tactical adaptation and operational success.

At a most basic level, H2 considers how humans address surprise. Warfare delivers numerous challenges so that “it is virtually impossible for states and militaries to anticipate all of the problems they will face in war.”¹¹⁴ How forces react to surprise can reduce costs or seize fleeting opportunities. Key questions regard the role of time, how tactical units should be applied, and what may be

¹¹¹ Cross, 69. For development of jungle techniques, value of patrolling, and other anticipation to reduce surprise, see Bryan Perrett, *Canopy of War: Jungle Warfare from the Earliest Days of Forest Fighting to the Battlefields of Vietnam* (Northamptonshire, England: Patrick Stephens Limited, 1990).

¹¹² Definitions are slight modifications of U.S. doctrine: “The first basic way to adapt is to anticipate, by which we mean to introduce new methods, schemes, or techniques *for future use*.” Italics in original. *MCDP 1-3 Tactics* (Washington, DC: U.S. Department of the Navy, 1997), p. 82.

¹¹³ “The second basic way to adapt is to improvise, to adjust to a situation *on the spur of the moment without any preparation*.” Italics in original. *MCDP 1-3 Tactics*, 83.

¹¹⁴ Theo Farrell, “Introduction: Military Adaptation in War,” in Theo Farrell, Frans Osinga, and James A. Russell, eds., *Military Adaptation in Afghanistan* (Stanford, California: Stanford Security Studies, 2013), p. 3.

reasonably expected in battlefield performance. H2 also reflects a larger tension regarding discipline and initiative when faced with challenges, as warfare can reward or punish both creativity and discipline. Battle demands discipline and adherence to orders “on which cohesion in battle depends,” but this need for discipline can contrast with the need for people to question procedures and devise superior outcomes.¹¹⁵ This balance reflects larger questions about how most effectively to fight, to prepare, and what qualities should be prioritized in personnel and units.

In extreme versions, the tension between improvisation and anticipation may reflect divergent assumptions about warfare. Current U.S. manoeuvre doctrine demands improvisation by emphasizing agility through flexibility and ingenuity.¹¹⁶ Creatively overcoming immediate challenges is required to mitigate setbacks and exploit fleeting opportunities. In contrast, USSR top-down adaptation honed during the Second World War required preparation, obedience, discipline, and intentionally stifling tactical creativity. The Soviet Army’s method overcame its initial, disastrous, performances, and improved into mechanized manoeuvre warfare on a massive scale to outfight and annihilate its opponents.¹¹⁷ Thus, both anticipation and improvisation may deliver potential advantages and both entail inherent risks; different contexts may exacerbate these costs, enhance the benefits, or favour one type above the other. However, it remains unclear what precise circumstances may cause these effects.

Anticipation: Preparing for the Future

Anticipation may deliver superior ideas in preparation for future obstacles. First, anticipation may be necessary to address challenges that require solutions outside the capacity or expertise of the commanders and units immediately engaged in combat.¹¹⁸ In Peter Mansoor’s assessment of U.S. infantry forces in Europe during the Second World War, adaptation had to occur at the division since regiments and

¹¹⁵ Williamson Murray, *Military Adaptation in War: With Fear of Change* (New York: Cambridge University Press, 2011), p. 3.

¹¹⁶ Richard Lock-Pullan, “How to Rethink War: Conceptual Innovation and AirLand Battle Doctrine,” *The Journal of Strategic Studies*. Vol. 28, No. 4 (August 2005), p. 689.

¹¹⁷ David M. Glantz and Jonathan House, *When Titans Clashed: How the Red Army Stopped Hitler* (Lawrence, Kansas: University Press of Kansas, 1995).

¹¹⁸ Doubler, *Closing*, 298.

below “were too focused on the current battle.”¹¹⁹ Divisional personnel were close enough to the fighting to understand what was needed, yet with time and resources which were unavailable to those immediately engaged in combat. As such, division-level assessment, refinement, and dissemination proved vital for increasing combat performance. Gradually, according to Mansoor, the U.S. army evolved into a more combat-effective force which ultimately caused campaign success.¹²⁰ Although initially “few divisions were fully effective upon their entry into combat,”¹²¹ the units sustained combat force and improved performance. Removed from immediate demands of tactical combat, division leadership could hone expertise and deliver the resources and solutions necessary to increase combat power and prepare for future operations.

The Soviet Army also employed anticipation to adapt tactics outside the capacity of tactical units. The Fortieth Army in Afghanistan caused “significant change” in its style of fighting by addressing larger challenges in guerrilla warfare.¹²² Slowly, the Soviets used a structured, hierarchical method to adapt, while tactical units were unable due to doctrine or priorities. Realizing they had to adjust beyond the initial invasion requirements, Soviet techniques shifted from massive firepower and tank formations to lighter, more mobile units in infantry carrier vehicles and helicopters. Soviet High Command emphasized controlling vital centres and lines of communication through a garrison force using position artillery and a mobile force to strike adversaries.¹²³ Firebases supported artillery and mobile strike teams in Combined Arms Reinforced Battalions, helping to shift operations toward an emphasis on attrition. Techniques developed in contrast with traditional tactics that emphasized heavy firepower and overwhelming with mass,¹²⁴ and ultimately “the Soviets learned the art of war in Third World.”¹²⁵ While one may question the choice of strategy or campaign goals, Soviet adaptation improved their

¹¹⁹ Peter R. Mansoor, *The GI Offensive in Europe: The Triumph of American Infantry Divisions, 1941–1945* (Lawrence, Kansas: University of Kansas Press, 1999), 153-154.

¹²⁰ Mansoor, 154, 5.

¹²¹ Mansoor, 250.

¹²² Robert H. Scales Jr., *Firepower in Limited War* (Washington, DC: National Defense University, 1990), p. 165.

¹²³ Scales, 169

¹²⁴ Scales, 177.

¹²⁵ Scales, 196.

ability to execute attrition operations through solutions unlikely possible by tactical units alone.

Second, anticipation may be more effective for delivering high impact on operational outcome due to increased perspective, foresight, collaboration, and time. Higher staff may be more capable of aligning needs or changes with tactical priorities and campaign objectives, delivering greater appropriateness and increased relevance for operational outcomes. Increased battlefield perspective from more information, greater insight regarding current developments, and additional foresight regarding operational goals and future actions may enable anticipatory change to address unexpected challenges with greater capacity to result in success or failure. German army preparations to counter Allied amphibious assault at Normandy reflect these merits. As Germany's strategic focus shifted westward in 1943 the *Westheer* dramatically increased combat power and changed tactics in order to challenge "the imminent second front" in 1944.¹²⁶ In preparation for the expected landing, German troops "studied Allied combat techniques, tactics, and amphibious assault doctrine."¹²⁷ Soldiers practiced new anti-tank methods and improved camouflage for the French shore's distinctive terrain, and overall "programs represented serious, professional, and realistic preparation."¹²⁸ Additionally, coastal divisions were expanded, retrained, and strengthened in order to delay and disrupt the assault to enable a counterattack. Overall, the *Westheer* "made remarkable progress toward becoming a counterinvasion force" although ultimately it couldn't overcome larger shortcomings.¹²⁹

Concurrently, Allied anticipation accurately predicted challenges with the assault but failed to prepare for later shortcomings which nearly resulted in disaster, indicating the dangers of insufficient anticipation. In 1942, the Dieppe "debacle" revealed how amphibious landings still faced significant obstacles.¹³⁰ Allied troops crushed by German defenders proved harbour assaults as unfeasible, causing planners to prepare for landings over open beaches in order to come ashore and

¹²⁶ Hart, 221.

¹²⁷ Hart, 223.

¹²⁸ Hart, 223.

¹²⁹ Hart, 227-228. Key shortcomings included a lack of supplies, inadequate logistical system, poor early-warning intelligence, and Allied air and naval supremacy.

¹³⁰ Millett and Murray, *A War to be Won*, 413.

further inland to stage resources and personnel.¹³¹ Preparing for the OVERLORD landing, assaulting units would need to achieve a lodgement and build forces faster than their adversary over several weeks, “a daunting problem since reinforcing troops and supplies would have to come ashore over open beaches” unlike German defenders using road and rail.¹³² Ultimately, planners revised operations in accordance with the new requirements,¹³³ but Allied anticipation failed in other instances. For instance, initial preparations revealed serious weakness at the tactical level.¹³⁴ When the experienced Major General Corlett¹³⁵ arrived to advise senior commanders they largely ignored his insistence on improved fire support and additional ammunition allotments — advice later proved “completely correct.”¹³⁶ Due to this unwillingness to address tactical problems, “the Omaha beach landing was almost a failure,” reinforcing the risks of poor anticipation.¹³⁷

A relatively small anticipation at Iwo Jima delivered significant contributions to what became “the best-conducted defensive operation of the Japanese war.”¹³⁸ Preparing to defend the island against U.S. amphibious assault and seizure, the IJA commander rejected standard army practice and the navy’s preference for direct defence on the beaches and airfield.¹³⁹ Instead, the IJA altered its force posture to execute a defence in depth throughout the rocky terrain. Exploiting time and foresight, the IJA prepared for several months before the landing as defending forces entrenched themselves in natural caves modified and enlarged “into an intricate system linked by sixteen miles of tunnels.”¹⁴⁰ By adjusting combat techniques from forward defence to entrenchment in the new environment, IJA positions increased protection against firepower while their own

¹³¹ Millett and Murray, *A War to be Won*, 413.

¹³² Millett and Murray, *A War to be Won*, 413.

¹³³ Rick Atkinson, *The Guns at Last Light: The War in Western Europe, 1944-1945* (London: Abacus, 2013).

¹³⁴ Millett and Murray, *A War to be Won*, 417.

¹³⁵ General Marshall “sent Major General Charles Corlett from the Pacific, where he had led the successful assaults on Attu and Kwajalein, to advise Bradley” as well as other senior commanders. Millett and Murray, *A War to be Won*, 419.

¹³⁶ Millett and Murray, *A War to be Won*, 420.

¹³⁷ Millett and Murray, *A War to be Won*, 419.

¹³⁸ Max Hastings, *Retribution: The Battle for Japan, 1944–45* (New York: Random House, 2007), p. 264, published first in UK as *Nemesis: The Battle for Japan, 1944–45* (Harper Press, 2007).

¹³⁹ In mid-1944 “it was still army orthodoxy to defend islands on the beaches.” In Meirion Harries and Susie Harries, *Soldiers of the Sun: The Rise and Fall of the Imperial Japanese Army* (New York: Random House, 1991), p. 431.

¹⁴⁰ Hastings, *Retribution*, 250.

artillery could reach the vulnerable beaches. Tasked to cause as many casualties as possible, the IJA proved highly effective by channelling attackers into slow, deadly frontal assaults over several weeks that killed 6,821 and wounded another 17,372.¹⁴¹ The casualty ratio was one of the IJA's most-favourable across the Pacific battles.¹⁴²

U.S. Army development of special patrol groups during the Korean War reflected the need for higher commanders to anticipate needs and alter forces into new combat teams for revised purposes. As operational goals changed in 1951 to linear defence and capturing prisoners,¹⁴³ Eighth Army now faced defending the main line of resistance across an extensive front. Forces had to prepare for fighting with smaller outposts and fortifications to pressure enemy troops, deny advances, and collect intelligence from captured prisoners. Senior commanders recognized that the new mission would require unique skills and aggressiveness beyond the average infantryman. Leaders designed new units of small patrol groups for the updated tactics of raids and extensive patrols, tailored specifically for the expected future missions despite "no official doctrine."¹⁴⁴ Special patrol groups frequently conducted the new missions deemed necessary for success. The new units performed a higher proportion of the missions for patrols, night raids, ambushes, and prisoner capture, and could execute the high-risk missions considered most important for attaining larger goals of defence, repelling attacks, and increased intelligence collection. Although their larger impact remains debated,¹⁴⁵ these specialized units likely achieved objectives with fewer casualties than the less-prepared infantry.¹⁴⁶

But anticipation also entails risk and potential costs. Most dangerous may be guessing wrong, seen in U.S. Army tank destroyer forces from 1941–43.¹⁴⁷ In

¹⁴¹ Hastings, *Retribution*, 264.

¹⁴² Hastings, *Retribution*, 263.

¹⁴³ William M. Donnelly, "Special Patrol Groups," in Jon T. Hoffman, ed., *A History of Innovation: U.S. Army Adaptation in War and Peace* (Washington, DC: Center of Military History United States Army, 2009), pp. 103-114.

¹⁴⁴ Donnelly, 108.

¹⁴⁵ Donnelly critiqued the logic for establishing the patrols groups. He claimed it was flawed since creating new units failed to improve overall infantry deficiencies, concluding "the effort failed precisely because the problems were due to high-level policies that simply could not be overcome by any local initiative." Donnelly, 114.

¹⁴⁶ The units decreased in use after the expanded ROK army assumed greater control over frontline duties in 1953. Donnelly, 112-113.

¹⁴⁷ Christopher R. Gabel, "Tank Destroyer Force," in Hoffman, 63-71.

response to Germany's impressive integration of armour forces, U.S. senior leadership tasked a special planning branch within the War Department to prepare a solution for future anti-tank operations. The organization evolved into an autonomous centre that created doctrine, designed force structure, assembled forces, organized training, and selected equipment based on mobility and firepower for use against masses of fast-moving light tanks.¹⁴⁸ A clear wartime challenge had been identified, and leaders initiated new actions tailored specifically to fight the expected future battles with foresight, planning, and significant resources. Yet the tank destroyer battalions' deployment to North Africa in 1942 produced dismal results. German units operated contrary to expectations as they combined arms to include effective antitank fire from overwatch positions. Battlefield realities revealed how the original U.S. methods based on lightly armoured tank destroyers seeking, striking, and destroying German tanks was "suicidal."¹⁴⁹ When units attempted to act as planned "the results were usually costly, or disappointing, or both."¹⁵⁰ Poor results caused the War Department to limit unit activation, halt deployments, and reduce forces. Ultimately, the General Board concluded that tank destroyer doctrine had never been validated. It closed the Tank Destroyer Center, and deactivated battalions. Incorrect expectations had developed in isolation and created inappropriate doctrine, force structure, and training. Ultimately, this failure of anticipation produced low effectiveness and proved costly.

Improvisation: Unplanned Solutions

Improvisation appears to provide specificity for addressing problems, refinement to improve solutions, and flexibility for missions and exploiting fleeting opportunities. First, solutions may be tailored with increased specificity since immediate problems can be clearly known. Germany's adjusted use of 88-mm Flak anti-aircraft cannons into a powerful anti-tank weapon can be traced directly to improvisation,¹⁵¹ applied to halt British forces advancing across the Halfaya Pass in the Egyptian–Libyan

¹⁴⁸ Gabel, 65.

¹⁴⁹ Gabel, 67.

¹⁵⁰ Gabel, 68.

¹⁵¹ Adam Grissom, "The Future of Military Innovation Studies," *The Journal of Strategic Studies*, Vol. 29, No. 5 (October 2006), p. 921.

frontier in 1941.¹⁵² On Iwo Jima, Japanese armour forces whose tanks were disabled chose to partially bury the equipment and employ the functioning turrets as artillery.¹⁵³ Forces could evaluate immediate problems with known requirements, and then modify equipment and alter techniques to partially overcome a deficiency. Second, solutions may be uniquely appropriate to specific challenges due to the capacity for trial and refinement. Experimentation may allow refinement of tactics as new inventions are tested against practical reality, delivering more appropriate benefits through incremental improvement. This process enables evolutionary advancement. Robert Foley challenged traditional views of First World War German infiltration tactical development by arguing that they arose from informal learning and experimentation among tactical units.¹⁵⁴ Third, improvisation encourages increased flexibility in tactical forces to overcome problems creatively. U.S. doctrine cites improvisation as an example for overcoming challenges in offensive movement as German forces in 1940 France commandeered local buses for moving infantrymen, or as U.S. Army rangers in Grenada seized East German trucks to enhance tactical speed.¹⁵⁵ As warfare's unknowns likely outnumber what may be predicted or how specific circumstances may change throughout conflict, improvisation can provide immediate solutions with speed and appropriateness.

Japanese adaptation to jungle warfare in Malaya revealed improvisation's accumulated effects. Organized and trained to fight Soviet forces across the plains of Manchuria and northern Asia, the Imperial Japanese Army (IJA) was "completely unprepared" for operations in Southeast Asia.¹⁵⁶ Additionally, IJA lacked tactical jungle training and had no practical preparations for the environment.¹⁵⁷ Also they

¹⁵² Millett and Murray, *A War to be Won*, 266-267.

¹⁵³ Harries and Harries, 339.

¹⁵⁴ Foley, "A Case Study in Horizontal Innovation."

¹⁵⁵ *MCDP 1-3 Tactics*, 83.

¹⁵⁶ C. Patrick Howard, *Behind the Myth of the Jungle Superman: A Tactical Examination of the Japanese Army's Centrifugal Offensive, 7 December 1941 to 20 May 1942*, MA Thesis (Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, 2000), p. 5. Howard examined multiple non-English language sources.

¹⁵⁷ As will be discussed more in Chapter Three, preparations were limited to reading one, 33-page pamphlet issued to soldiers as they boarded troop ships for reading while underway to the invasion. It contained only one paragraph about jungle movement. Masanobu Tsuji, *Japan's Greatest Victory Britain's Worst Defeat* (New York: Sarpedon Publishers, 1997), p. 2, edited by H.V. Howe, translated by Margaret E. Lake, first published in 1952 in Japan as *Shonan: The Hinge of Fate*. See also H.P. Willmott, *Empires in the Balance: Japanese and Allied Pacific Strategies to April 1942* (Annapolis, Maryland: Naval Institute Press, 1982), p. 242.

were outnumbered.¹⁵⁸ Yet the IJA repeatedly and consistently applied light infantry tactics prepared for mobile warfare in open terrain to the road network of the Malay jungle.¹⁵⁹ IJA forces adjusted methods to fight in the limited visibility with infiltration and encirclement throughout the new environment conditions delivering high mobility and rapid tempo.¹⁶⁰ In 70 days—quicker than planned—the IJA invaded 650 miles across the peninsula to Singapore and achieved “the greatest land victory in Japanese history.”¹⁶¹ In Malaya, unprepared IJA troops made small adjustments when necessary which aggregated into larger, significant advantages.

Yet improvisation entails risks and potential costs. First, ad hoc solutions may be inappropriate or unsustainable if reliant on contexts unlikely to be replicated in the future. Examining U.S. integration of new M1 Abrams tanks, Chris Demchak chronicled how spontaneous “quick fixes” informally addressed near-term problems but also increased system complexity and therefore raised the probability of undesired surprises.¹⁶² Invented solutions created informal, local networks across people and units that grew in significance until they were critical to success. However, these informal dependencies work only “as long the coordination and resource interactions are not significantly disturbed”¹⁶³—rarely possible when units face the disruptions of deploying and executing combat operations. Thus, what appears as an effective solution may be impossible to replicate as circumstances change, undermining their value in combat.

Second, improvisation may favour improving existing tactics rather than questioning their broader relevance or contributions to effectiveness. In this sense, improvisation risks increasing proficiency for doing things wrong. U.S. attrition tactics relying on firepower in Vietnam might reflect this risk. Over the first three years, U.S. firepower consistently “mauled” Vietnamese attackers through large

¹⁵⁸ “The British had nearly twice as many men in Malaya, some 120,000, and twice as much artillery and armor.” Harries and Harries, 305.

¹⁵⁹ T.R. Moreman, *The Jungle, The Japanese and the British Commonwealth Armies at War 1941–1945: Fighting Methods, Doctrine and Training for Jungle Warfare* (New York: Routledge, 2013), p. 25, first published 2005.

¹⁶⁰ Moreman, 27.

¹⁶¹ John Toland, *The Rising Sun: The Decline and Fall of the Japanese Empire, 1936–1945* (New York: The Modern Library, 2003), p. 277, originally published 1970.

¹⁶² Chris C. Demchak, *Military Organizations, Complex Machines: Modernization in the U.S. Armed Services* (Ithaca, New York: Cornell University Press, 1991), p. 103.

¹⁶³ Demchak, *Military Organizations*, 104.

battles around cities and base camps.¹⁶⁴ In the 1967 defence of Khe Sanh, U.S. forces effectively applied new firepower systems for precise targeting and mass destruction, exemplifying years of tactical and technological improvement.¹⁶⁵ However, Robert Scales argued how this reliance on firepower and measuring success through body counts ultimately revealed that “a finite limit exists to what modern firepower can achieve in limited war, no matter how sophisticated the ordnance or how intelligently applied.”¹⁶⁶ Effective firepower delivered impressive tactical gains but this method for executing operations failed to deliver larger success. Relatedly, Andrew Krepinevich blamed reliance on firepower and material superiority as critical factors in larger U.S. army failure.¹⁶⁷ If Krepinevich and Scales are correct then even the most momentous tactical improvements in firepower still would have failed to deliver success since the methods were inappropriate. Forces were chasing their mistakes.

Finally, improvisations also can fail. Approaches may cause “high casualties, as fighting units identify problems and work toward solutions.”¹⁶⁸ Some problems may be insurmountable for the available forces. This risk may seem obvious and it is not exclusive to improvised ideas but it bears reminding. Lost resources and lives cannot be recouped. Circumstances that favour improvisation—unplanned responses at moments they are required—suggest scenarios that may be limited in time, resources, or personnel, and therefore a failed improvisation may reduce relative strength as well as substitute for a more appropriate action. In the Pacific theatre, Japanese forces without heavy anti-tank guns experimented using improvised explosives devices both thrown and buried underground.¹⁶⁹ Others used themselves “as mines and missiles.”¹⁷⁰ All had limited success. A superior answer may have been found in better preparation.

Thus, the implications for H2 are that if the perspective favouring anticipation is correct then findings should support H2. Consequently, analysis

¹⁶⁴ Scales, 120.

¹⁶⁵ Scales, 122-123.

¹⁶⁶ Scales, 153.

¹⁶⁷ Andrew J. Krepinevich Jr., *The Army and Vietnam* (Baltimore, Maryland: The Johns Hopkins University Press, 1986), pp. 4-5.

¹⁶⁸ Doubler, *Closing*, 281.

¹⁶⁹ Harries and Harries, 353.

¹⁷⁰ Harries and Harries, 353.

should reveal that tactical adaptation based primarily upon new techniques, procedures, or methods developed before they are needed is likely to increase effectiveness and result in operational success.

H3: NATURE OF CHANGE

Facing Libyan attackers armed with tanks and fighter-bombers in 1985, northern Chadian rebels declined international offers for tanks, armoured personnel carriers, or heavy artillery.¹⁷¹ Instead, the Toubou tribesmen requested and received trucks, light armoured cars, small arms, anti-tank and anti-aircraft weapons. The new equipment enabled improved mobility and firepower through tactics that reflected the rebels' traditional techniques for desert warfare, now with enhanced speed of movement, concentration, flexibility, and tempo. This increased effectiveness ultimately helped shift military power to favour the rebels. It also raises questions: since the equipment delivered new capabilities to the rebels, why did they decline the more advanced technology? And why were the less-sophisticated resources so useful in shaping battlefield outcome? This scenario hints at a larger question between adapting with technology and the skill required to employ existing technology more effectively. H3 addresses part of this broader debate.

H3 predicts an answer to the research question: Are tactical adaptations more likely to result in operational success when they are based on new technology, or when they are based on new ways of using existing technology through reorganization or training? As a result, H3 states: "Tactical adaptation based on new training or unit reconfiguration, rather than new or modified equipment, is more likely to result in operational success." Testing H3 will evaluate how the nature of tactical adaptation shapes its relationship with operational success.

H3's logic is that new training or unit reconfiguration can contribute to success because it increases skill and delivers new abilities for using existing technology. H3 accepts that new technologies can have significant impact on battlefield performance, but also that they present challenges and require modification in human skill. At a minimum, personnel must adjust to the new technical techniques, effects, and how they may change the battlefield. More

¹⁷¹ Description of Libya-Chad conflict from Pollack, 387-388.

disruptive technologies may directly challenge known concepts and require significant organizational change before they may be fully adopted, creating new challenges in the short-term which may require more time than available during conflict. H3 infers that scholars citing technological advancement as the primary driver for increased military effectiveness insufficiently consider the costs of incorporating new material, the challenges created by new technologies on an operating environment, or the importance of reorganization and training on battlefield outcomes. Reorganization and training can reduce barriers which may include an increased ability to harness technology, while new technology tends to create new challenges before it may be fully applied. H3 posits that technological change is important but may be less beneficial for operational success in comparison with the way humans use existing technology as measured by skill.

H3 reflects a larger tension among scholars regarding the relationship between technological advancements and military performance. Debates over these issues indicate a continued need for analysis regarding how operational success may be shaped by these factors, and these considerations frame H3. As such, this section uses prior theorizing to explain H3's foundation, comparing skill-based changes in training or reorganization versus technology-driven adaptations in advanced weapons, equipment, or new resources. While themes and authors do not claim that only technology or that only skill matter in warfare, they do favour one over the other as primarily important or essential.

Technological Imbalances

Coalition victory in the Gulf War appeared to reveal significant opportunities and dangers related to technological disparity, and subsequent discussions of military power increasingly emphasized technological advantages over human skill. Many assessments since the early 1990s presented new technologies as decisive for determining battle outcome and perhaps even ultimate victory.¹⁷² Often associated with the Revolution in Military Affairs (RMA),¹⁷³ proponents contended that

¹⁷² For an overview of these assessments see Keith L. Shimko, *The Iraq Wars and America's Military Revolution* (New York, New York: Cambridge University Press, 2010).

¹⁷³ Stephen Peter Rosen, "The Impact of the Office of Net Assessment on the American Military in the Matter of the Revolution in Military Affairs," *The Journal of Strategic Studies*, Vol. 33, No. 4 (August 2010), pp. 469-482. See also Richard O. Hundley, *Past Revolutions, Future*

technological advancements in precision weapons and sensing technology had fundamentally changed modern warfare.¹⁷⁴ Following overwhelming Coalition success in 1991, RMA concepts regarding network-centric warfare “infused military discourse” and influenced considerations about technological advancements as a key driver for military innovation.¹⁷⁵ Some analysts argued that technology would continue to deliver “major changes in war’s conduct” over the next decades.¹⁷⁶

Discussions of RMA advancements emphasized new airpower capabilities, and most disagreements tended to surround the magnitude of improvement rather than whether a major change was underway.¹⁷⁷ In 2013, RAND’s Benjamin Lambeth concluded that “by far the most preeminent unifying theme” to emerge from recent conflict was that “airpower will inevitably be pivotal in future wars.”¹⁷⁸ For Lambeth, air operations “can achieve desired objectives essentially singlehandedly if conditions are right,” citing how in Serbia (1999) and Libya (2011), “allied airpower singlehandedly achieved NATO goals.”¹⁷⁹ The traditional relationship between ground and air power had fundamentally changed since “ground forces have now come to do most of the shaping and fixing of enemy forces, with airpower now doing most of the actual killing.”¹⁸⁰ Thus some airpower-led RMA enthusiasts questioned whether the core nature of ground warfare had changed, to include questioning the relevance of ground forces.

Transformations: What can the history of revolutions in military affairs tell us about transforming the U.S. military? (Santa Monica, CA: RAND National Defense Research Institute, 1999); Robert C. Martinage and Michael G. Vickers, *The Revolution in War* (Washington, DC: Center for Strategic and Budgetary Assessments (December 2004); Barry D. Watts, *The Maturing Revolution in Military Affairs* (Washington, DC: Center for Strategic and Budgetary Assessments, 2011).

¹⁷⁴ Specifically, that a new awareness and capacity in all-weather precision strike, stealth, unmanned systems, space, and network-based warfare along with joint-force integration fundamentally revolutionized modern warfare. Martinage and Vickers, i.

¹⁷⁵ Shimko, 109.

¹⁷⁶ Watts; see also Shawn Brimley and Robert O. Work, *20YY Preparing for War in the Robot Age* (Washington, DC: Center for New American Security, January 2014); Daniel Fiott, “Europe and the Pentagon’s Third Offset Strategy,” *The RUSI Journal*, Vol. 161, No. 1 (February/March 2016), pp. 26-31; Robert Work, “The Third Offset Strategy and its Implications for Partners and Allies,” speech delivered at the Willard Hotel, Washington DC, 28 January 2015, available at <http://www.defense.gov/News/Speeches/Speech-View/Article/606641/the-third-us-offset-strategy-and-its-implications-for-partners-and-allies>, accessed March 27, 2016.

¹⁷⁷ Shimko, 14.

¹⁷⁸ Benjamin S. Lambeth, “Lessons from Modern Warfare: What the Conflicts of the Post-Cold War Years Should Have Taught Us,” *Security Studies Quarterly* (Fall 2013), p. 32.

¹⁷⁹ Lambeth, 35.

¹⁸⁰ Lambeth, 42.

Since 2014, analysts continued to argue that improving technological advantages remained essential for future military dominance and national U.S. defence policy, now labelled the Third Offset Strategy.¹⁸¹ Part of the U.S. Defense Innovation Initiative, the Third Offset Strategy proposed that past U.S. military strategy had successfully used technological advantages to substitute for conventional mass when facing the Soviet Union, and that continued advancements in defence technology would be necessary as “growing technological parity” threatened to erode remaining competitive advantages.¹⁸² After the first offset strategy used a nuclear arsenal to counter Soviet conventional divisions and the second created precision-strike conventional weapons for attacking deep behind battle-lines of forward soviet troops, the proposed third offset would require a new, similarly momentous technological edge, although the specific details and concepts remained undetermined.¹⁸³ Two proponents suggested increased unmanned and autonomous systems based on advances in cyber warfare, computing, autonomous swarms of ISR, artificial intelligence, commercial robotics, additive manufacturing, general miniaturization of power systems and propulsion mechanisms, electric weapons, and using technology to enhance human physical and cognitive abilities.¹⁸⁴ An extension of RMA thinking, the third offset proponents prioritized technological advantages as decisive in warfare, implying human skill as a secondary (or lower) priority.

Less bold assessments still asked to what degree technology had changed ground forces. Deep-strike weapons provided attack capabilities of such scale and breadth that perhaps they could partially substitute for roles previously required from land-based manoeuvre units.¹⁸⁵ Referencing the 2003 Iraq invasion, Keith Shimko claimed that precision weapons’ ability, simultaneously and immediately, to attack tactical, operational, and strategic targets now enabled aerial firepower to perform roles that replaced some previously required of mechanized breakthrough operations. If this partial replacement was already underway and technological advancements would continue (as assumed), then what future replacements would

¹⁸¹ Work, “The Third Offset Strategy and its Implications.” See Brimley and Work; Fiott.

¹⁸² Work, “The Third Offset Strategy and Its Implications.”

¹⁸³ Work, “The Third Offset Strategy and its Implications.”

¹⁸⁴ Brimley and Work, 22-27.

¹⁸⁵ Shimko, 215-216.

follow? This question (and others) indicated that the traditional, distinct role of ground forces may be changing. However, it remained unclear to what degree or magnitude. Some would reply that it was not very much.

Skill Advantages

An alternative argument is that a skill imbalance can be at least as dangerous as a technological imbalance. Foremost is Stephen Biddle's argument that human skill remains fundamental to understanding battle outcomes, warning about over-emphasizing the relevance of technological developments when assessing battlefield events.¹⁸⁶ Challenging RMA enthusiasts and the degree which ground warfare had changed, in 1996 Stephen Biddle reintroduced human skill as fundamental to understanding battle outcomes. Assessing 20th Century combined-arms warfare, Biddle argued the impact of technological modernization in warfare remained secondary to human skill for using equipment, weapons, and terrain. He also claimed that warfare had not fundamentally changed since the First World War. Vitally, Biddle's analysis did not reject all value of technological change. Rather, it implied that RMA advocates had overlooked the need for balancing technology with skill. Yes, new and more-advanced equipment created imbalances in technological capabilities, but humans still had to know how to use and to exploit these new systems. Hence, technological change delivered new opportunities and also new burdens. Biddle's writings contain three key elements for H3.

First, that explanations of the Gulf War that considered only technological imbalances appeared incomplete since human skill and error could be equally important as relative technological capabilities.¹⁸⁷ Using independent histories and counterfactual computer simulation, Biddle concluded that the overwhelming Coalition victory was caused by "a synergistic interaction between a major skill imbalance and new technology."¹⁸⁸ As such, the dominant narrative incorrectly

¹⁸⁶ Stephen Biddle, "Victory Misunderstood: What the Gulf War Tells Us About the Future of Conflict," *International Security*, Vol. 21, No. 2 (Fall 1996), pp. 139-179; Stephen Biddle, "Explaining Military Outcomes," in Risa Brooks and Elizabeth Stanley, eds., *Creating Military Power: The Sources of Military Effectiveness* (Stanford, CA: Stanford University Press, 2007), pp. 207-227; Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton, New Jersey: Princeton University Press, 2004).

¹⁸⁷ Biddle, "Victory Misunderstood," 139.

¹⁸⁸ Biddle, "Victory Misunderstood," 140.

focused on “numbers and technical characteristics of two sides’ weapons.”¹⁸⁹ More broadly, the technology-centric narrative risked “serious misjudgement of states’ real military power” by overemphasizing the role of technology and overlooking the qualities required to employ it effectively.¹⁹⁰ According to a more nuanced perspective that considered technological imbalances along with skill differentials, advanced technology may dramatically raise the costs of human mistakes or shortcomings but, alone, it remained insufficient for explaining battle outcomes.

Second, nonmaterial variables required further consideration to explain battle outcomes to which Biddle introduced his concept of force employment.¹⁹¹ The centrally important criteria for determining battle outcomes was the way forces employed material through “the doctrine and tactics by which forces are actually used in combat.”¹⁹² The most effective force employment for achieving victory was the “modern system” that prioritized reducing one’s vulnerability to the full lethality of opponents’ firepower.¹⁹³ Firepower lethality entailed a constant danger that required new and unique ways to employ it, hide from it, and sustain forces by reducing vulnerability to its effects. Biddle later emphasized, specifically, the human skill in reducing vulnerability to firepower as a key variable for limiting battlefield casualties and therefore explaining military outcomes.¹⁹⁴ These arguments challenged analysts who overlooked nonmaterial factors to explain battlefield outcomes, as well as their underlying assumption that 20th Century warfare had fundamentally changed.

Finally, land-based warfare and ground forces appeared to retain distinct roles essential for victory. Biddle argued that the importance of human skill and the nature of the modern system was fundamentally unchanged since at least 1900 regarding mid-to-high intensity ground warfare.¹⁹⁵ Throughout the 20th Century, “the dominant technological fact of the modern battlefield has been increasing

¹⁸⁹ Biddle references include: Paul K. Davis, ed., *New Challenges for Defense Planning: Rethinking How Much is Enough* (Santa Monica, California: RAND, 1994); U. Candan et al, *Present NATO Practice in Land Wargaming*, STC-PP-252 (The Hague: SHAPE Technical Center, 1987); Wayne P. Hughes, Jr., ed., *Military Modeling* (Alexandria, Va.: Military Operations Research Society, 1984), all cited in “Victory Misunderstood,” 140, footnote 5.

¹⁹⁰ Biddle, “Victory Misunderstood,” 140.

¹⁹¹ Biddle, *Military Power*.

¹⁹² Biddle, *Military Power*, ix.

¹⁹³ Biddle, *Military Power*, 2-3.

¹⁹⁴ Biddle, “Explaining Military Outcomes,” 207-227.

¹⁹⁵ Biddle, *Military Power*, 2-3.

lethality.”¹⁹⁶ Therefore, the common determinant of military outcome was how skilfully a force can reduce its exposure to enemy firepower while maximizing its own lethality against an adversary.¹⁹⁷ The modern system combined techniques that, when implemented, “damps the effects of technological change and insulates its users from the full lethality of their opponents’ weapons.”¹⁹⁸ Thus, modern military power would continue to prioritize ground-based combat, and the most important national military task remained “the mission of controlling territory in mid-to-high intensity continental warfare.”¹⁹⁹ This mission would remain a central military purpose until the modern battlefield was no longer dominated by firepower.

Others warned against underestimating the importance of existing weapons, equipment, or resources.²⁰⁰ A mistake was that emphasizing technological advancement overlooked the continued impact of established methods and incorrectly assessed impact by focusing on the arrival of new items rather than measuring their broader, comparative relevance. As a result, military analysts who focused on novel or new developments overlooked how “the well-established ones became the great killers.”²⁰¹ For example, David Edgerton cited Soviet combat deaths in the Second World War: while many focus on the technological advances since 1919, approximately 5,000,000 (50%) of all Soviet soldiers died from artillery and 2,000,000 (20%) by small arms—the same technology responsible for most killings in the First World War. Most of the remaining 3,000,000 (30%) died from starvation and disease—ancient killers.²⁰² Focusing only on the changes since 1919 would overlook the importance and impact of existing technology, incorrectly substituting novelty for significance. A second mistake was that military analysts emphasizing technological change become vulnerable to inaccurate measurements by failing to consider the scope that something is used. Smaller technologies may have a large impact since they are used daily by many, and minor adjustments in their use or maintenance may have a significant impact. Again referencing 20th

¹⁹⁶ Biddle, *Military Power*, 2.

¹⁹⁷ Biddle, *Military Power*, 3.

¹⁹⁸ Biddle, *Military Power*, 3.

¹⁹⁹ Biddle, *Military Power*, 6-7.

²⁰⁰ Argument from David Edgerton, *The Shock of the Old: Technology and Global History Since 1900* (New York, New York: Oxford University Press, 2007).

²⁰¹ Edgerton, 143.

²⁰² Edgerton, 144

Century deaths, Egerton cites the rifle as killing over 10,000,000 civilians through massacres and formal executions until approximately 1970.²⁰³ This simple weapon had momentous impact since it was used by many of people despite experiencing only relatively minor technological advancements throughout the period.

Considering these themes, H3 appears supported by examples displaying a significant impact on operational outcome due to wartime change based upon reorganization or training. From 1937–45 Japanese army forces in China reorganized and established new units to shift from conventional warfare to fighting both regular and guerrilla forces.²⁰⁴ Facing hundreds of thousands of combatants in conventional, insurgent, and guerrilla forces,²⁰⁵ units shifted to continuous small patrols supplemented by resource destruction and large-scale search-and-destroy missions. Japanese forces blockaded and fenced railways, established posts and forts, and implemented systems of blockhouses, barbed fences, and pill boxes supplemented by intense patrolling, to control territory and to protect lines of communication.²⁰⁶ The revised procedures and altered methods used existing resources to enhance combat abilities. New units effectively supplemented large-scale search-and-destroy operations to find and kill adversaries, considered the top priority.²⁰⁷ Coordinated with division-level operations, the Japanese displayed “a successful pattern of tactical maneuver to capture and destroy guerrilla forces.”²⁰⁸ Blockading larger areas with miles of fencing, crossing marches and digging ditches to limit guerrilla movements trapped enemy fighters and effectively limited their activity.²⁰⁹ After 1943, newly-formed strike units fused intelligence collection, long-range scouting, and assaults, which proved “very successful” through ambushes and

²⁰³ Egerton, 145-146. He also cites Gil Elliot, *The Twentieth Century Book of the Dead* (London: Allen Lane, 1972), p. 133, cited in Egerton, 146, footnote 17.

²⁰⁴ Noboru Yamaguchi, “An Unexpected Encounter with Hybrid Warfare: The Japanese Experience in North China, 1937–1945,” in Peter R. Mansoor and Williamson Murray, eds., *Hybrid Warfare: Fighting Complex Opponents from the Ancient World to the Present* (New York, New York: Cambridge University Press, 2012), pp. 225-226, 243.

²⁰⁵ Nationalists operated in units as large as 20,000 with as many as 170,000 in a single province. See Philip Jowett, *China's Wars: Rousing the Dragon 1894–1949* (Oxford, United Kingdom: Osprey Publishing, 2013), p. 306. Communist local militia forces totalled approximately 2,000,000 by 1944, in addition to other networks. Jowett, 310.

²⁰⁶ Jowett, 312.

²⁰⁷ Yamaguchi, 248.

²⁰⁸ Yamaguchi, 249.

²⁰⁹ For example, the “Three All” policy of 1940–1941, “take all, burn all, kill all.” Ian F. W. Beckett, *Modern Insurgencies and Counter-Insurgencies: Guerrillas and Their Opponents Since 1750* (New York, New York: Routledge, 2001), p. 78; Jowett, 313-314.

assassination.²¹⁰ Overall, Japanese adaptation using existing technology in new ways enabled them to control large areas of Chinese territory and to achieve their objective in limiting guerrilla activity.

H3 is also supported by USSR Seventh Army against Finland during the 1939–40 Winter War. Initial setbacks and a poor combat performance caused Seventh Army to reorganize and retrain mid-conflict, eventually applying methods to overcome both Finn defenders and the cold environment. Soviet changes contributed to Seventh Army achieving objectives with improved speed and reduced casualties. Initially, Soviet assaults were “hurried and amateurish” that displayed “little understanding the terrain or problems of coordinating infantry, artillery, and armor.”²¹¹ None of the forces met their minimum operational objectives as Seventh Army personnel consistently failed against Finn defenders that “outfought their numerically superior opponents.”²¹² Soviet failures caused Moscow to pause operations in December 1939, and over the next six weeks Seventh Army reorganized, overhauled command structure, and trained in new tactics for the decisive second phase.²¹³ Soviet forces created a special mobile group, established new assault groups, initiated winter training, exercised penetration against fortifications, replaced personnel, and supplemented forces with additional riflemen and a few heavy tanks.²¹⁴ Then, from 12 February to 9 March, Seventh Army displayed its new abilities in improved tactics and combined-arms operations. New and reorganized units helped to penetrate defensive lines and to seize the Karelin Isthmus, causing Finland to concede. Overall, the Seventh Army endured high costs but displayed improved tactics, a new ability in combined arms through large-scale operations, and achieved its objectives.

In addition, H3 appears supported by U.S. Army operations during the 1944 Normandy Campaign.²¹⁵ When poor coordination between infantry and armour undermined combined-arms operations and slowed progress in northwest Europe, “the determination of both troops and commanders to retrain in the field was a key

²¹⁰ Jowett, 315-316.

²¹¹ Glantz and House, 20.

²¹² Max Hastings, et. al., eds., *The Second World War: A World in Flames* (Oxford, Great Britain: Osprey Publishing, 2004), p. 61.

²¹³ Glantz and House, 22.

²¹⁴ Glantz and House, 22.

²¹⁵ See Hart; Doubler, *Closing*.

strength that consistently allowed them to enhance their combat effectiveness.”²¹⁶ After evaluating new techniques for combined-arms operations, First Army retrained untested units in the field and rotated other formations off frontline service to retrain.²¹⁷ Russell Hart assessed that improved cooperation and “growing mastery of the combined-arms air-land battle brought success in Normandy.”²¹⁸ This U.S. commitment to retrain in the field during a combat campaign contributed to “a paradigm of military adaptability.”²¹⁹

Thus, the implications for H3 are that if the perspective favouring skill is correct then findings should support H3. Consequently, analysis should reveal that tactical adaptation based primarily upon increasing skill through reorganization and training is likely to increase effectiveness and to contribute to operational success.

²¹⁶ Hart, 278.

²¹⁷ Hart, 283. Hart cites Joseph Balkoski, *Beyond the Bridgehead* (Harrisburg, Pennsylvania: Stackpole, 1989), chapter 5, in Hart, 283, footnote 78; Doubler, *Closing*, 48-49.

²¹⁸ Hart, 291.

²¹⁹ Hart, 8.

Chapter Three

Fighting Unprepared:

Japanese Invasion and British Expulsion, 1941–42

After launching attacks in December 1941, across Southeast Asia the Imperial Japanese Army appeared invincible as it rode a tide of battlefield victory and conquest.¹ In Burma, both British and Japanese forces faced adversaries and an environment different than prepared, with essentially no specific doctrine or training. Yet their outcomes were quite different: British forces proved “an unmitigated disaster” suffering decisive defeat and expulsion to India, while Japanese attackers consistently trapped and destroyed their better-equipped adversaries throughout the jungle.² Assessing performance and outcome, this chapter posits that the lack of British adaptation exacerbated setbacks. Furthermore, a lack of change influenced performance and effectiveness of both forces but the subsequent outcome derived from a deeper, significant skill imbalance that would be nearly impossible to reconcile after the operation began. Thus, this case indicates how once fighting starts then it may be too late to overcome core deficiencies in skills and basic abilities. The IJA invasion also indicates how a force may be inflexible—even anticipating wrongly—but not require change when significantly more skilled than its adversaries. Therefore, this case suggests that inflexibly may harm forces and deliver additional costs but that inflexibility, alone, is unlikely to be the sole cause of low effectiveness or operational failure.

Forces and Capabilities

Japan’s Southern Expeditionary Army Group, headquartered in Saigon, prepared for an overland invasion from Siam to occupy Burma by capturing Rangoon, seizing key infrastructure, and destroying defenders.³ Control of Rangoon would enable resupply and reinforcement necessary for sustained control and administration of the

¹ Bill Yenne, *The Imperial Japanese Army: The Invincible Years, 1941–1942* (New York: Osprey Publishing, 2014).

² Allan R. Millett and Williamson Murray, eds., *Military Effectiveness Volume 3: The Second World War*, New Edition (New York: Cambridge University Press, 2010), p 120, first published 1988.

³ Yenne, 187.

country. With Japanese forces positions along the border in Siam,⁴ the operation into Burma was to occur six weeks after the invasion of Malaya using IJA Fifteenth Army.⁵ Totalling 35,000 men in eleven battalions across two understrength divisions, the 55th and 33rd, Fifteenth Army was small but possessed a modest numerical advantage over defending units.⁶ The primary objective was to destroy defending forces, with the secondary objective of securing strategic locations: Rangoon and its port; Mandalay; Prome on the Irrawaddy River; Toungoo on the Sittang River; and Yenangyaung with its oil fields.⁷ Rangoon presented the key geographic objective because the port could resupply a military force and serve as the overall logistics base, while the city formed the key intersection for internal lines of communication.⁸ Without Rangoon, an army could seize Burma but not sustain it.

Invading forces would arrive from northern Siam, move westward toward Rangoon, and cross two rivers to seize the capital. Then forces would push northward along the Irrawaddy and Sittang rivers toward India in the northwest and China in the northeast, destroying forces and cutting any overland link between the countries. Two routes would cover the 150 miles to Rangoon: 55th Division straight west to the city while 33rd Division circled north to attack it from the opposite side.⁹ Then, the 33rd Division would attack Prome while the 55th Division moved up the Sittang valley.¹⁰ Overall, Fifteenth Army's plans entailed flexibility and, with

⁴ Previously, the Thais in Siam had conceded to military pressure and signed a treaty of alliance that allowed Japan to mass along the border in preparation for the invasion. France's defeat in 1940 weakened its hold over Laos and Cambodia of which the Thais desired to control. The IJA provided support for advancing Thai troops, and then deeper Japanese cooperation with Thai forces enabled further Japanese military expansion into Siam before the invasion across Southeast Asia. See Meirion Harries and Susie Harries, *Soldiers of the Sun: The Rise and Fall of the Imperial Japanese Army* (New York: Random House, 1991), p. 282.

⁵ Frank McLynn, *The Burma Campaign: Disaster into Triumph 1942–45* (London: Vintage Books, 2010), p. 24.

⁶ IJA Fifteenth Army was commanded by Lieutenant General Shojiro Iida, with the 33rd Division commanded by Lieutenant General Shozo Sakura, and 55th Division commanded by Lieutenant General Hiroshi Takeuchi. Each division possessed only two regiments rather than the usual three: 214th and 215th in the 33rd, and 112th and 143rd in the 55th. The 33rd later gained a third after the IJA seized Rangoon. See H.P. Willmott, *Empires in the Balance: Japanese and Allied Pacific Strategies* (Annapolis, Maryland: Naval Institute Press, 1982), pp. 412–413.

⁷ Willmott, *Empires in the Balance*, 413. Rangoon's port was necessary for resupply and to maintain forces. Prome and Toungoo "were vital communications centers in their respective river valleys, while Yenangyaung was the center of the oil industry in Burma. Mandalay's importance was as the hub of the central area." Willmott, *Empires in the Balance*, 413.

⁸ Graham Dunlop, *Military Economics, Culture and Logistics in the Burma Campaign, 1942–1945* (London: Routledge, 2016), p. 18, originally published in 2009.

⁹ Yenne, 191.

¹⁰ Willmott, *Empires in the Balance*, 413.

limited administrative or logistic support lines, allowed the army to alter divisional objectives and to move units once inside the country.¹¹ In preparation, the IJA probed Burma's frontiers to seize Victoria Point and two airfields at Mergui and Tavoy, and positioned for the larger attack with its main force.¹²

Japanese Attacking Forces

Operations in Malaya during December 1941 revealed that Japanese tactics could be effective in the jungle environment despite no significant preparation for the terrain or climate. Through well-executed basic offensive tactics, the IJA proved effective in jungle fighting due to its organization, training, infantry-based doctrine, and high readiness, rather than any specific preparations for jungle fighting. In the new environment, vegetation slowed movement and limited communication, delivering advantages to light infantry which could maximize mobility to move undetected and attack flanks which were almost always vulnerable to encirclement.¹³

The IJA organized infantry divisions to prioritize mobility and flexibility in the attack with a superior concentration of forces. During 1937 the IJA began creating triangular divisions by reorganizing from the four-regiment square, now allowing one unit to attack, one to envelop, and one held in reserve, increasing overall divisional mobility and flexibility.¹⁴ The reorganization also created a surplus of regiments which facilitated expanding the number of divisions, now totalling around 16,000 people apiece with 3,000 per regiment.¹⁵ For battlefield control, frequently a division would form a separate, subordinate task force called an

¹¹ Willmott, *Empires in the Balance*, 413.

¹² Now named Myeik and Dawei. Yenne, 191.

¹³ T.R. Moreman, *The Jungle, The Japanese and the British Commonwealth Armies at War 1941–1945: Fighting Methods, Doctrine and Training for Jungle Warfare* (New York: Routledge, 2013), pp. 13–14, first published 2005.

¹⁴ Harries and Harries, 327; Edward Drea, *In the Service of the Emperor: Essays on the Imperial Japanese Army* (Lincoln, Nebraska: University of Nebraska Press, 2003), p. 63.

¹⁵ Reorganization created six new divisions, increasing from 17 to 23. Edward Drea, *Nomonhan: Japanese–Soviet Tactical Combat, 1939*, Leavenworth Papers No. 2, Combat Studies Institute (Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, January 1981), p. 16. For the new numbers, see *Periodical Notes on the Japanese Army No. 2, The Infantry Division: Organization, Characteristics of Weapons, and Organization of Units* (United Kingdom: The War Office, 1944), p. 3. A strengthened division possessed approximately 5,680 per regiment and a larger overall force. See also Philip Jowett, *The Japanese Army 1931–1945 (2)* (Oxford: Osprey, 2002), p. 13. A regiment possessed three battalions each with four companies.

infantry group to conduct combat operations.¹⁶ The divisions to invade Burma reflected standard army procedures and were relatively unexceptional. Both had been formed within the previous two years from Eastern Army Administrative District, with the 33rd Division from Sendai since March 1939 and the 55th Division at Zentsuji from August 1940.¹⁷ Both divisions formed in accordance with the standard model of regionally-based enlistment and district support while deployed, to include replacement personnel and various administrative support.¹⁸ IJA units formed around two-year active service conscripts supplemented by reserve replacements, and the 33rd and 55th divisions likely followed this standard model.¹⁹ The 55th Division had not fought before Southeast Asia.²⁰ The only relevant changes to the divisions occurred in Siam, where transport units added animals and removed some motorization; a few others allocated mountain guns down to their companies.²¹

IJA doctrine envisioned fighting the USSR in Manchuria rather than a British imperial force in Southeast Asia. Doctrine emphasized intangible soldier qualities to deliver quick, decisive battlefield victory through offensive actions by superior light infantry, “the heart and soul of the force.”²² For planners and trainers the USSR remained their primary adversary, and Japan’s previous annual exercise (November 1941) envisioned operations in Manchuria against the Soviets.²³ To avoid a long-term attrition battle which would exacerbate Japan’s material weakness relative to the USSR, IJA doctrine aimed for a short war by rapid encirclements for piecemeal destruction. These tactics required mobility, speed, and initiative through

¹⁶ Julian Thompson, *The Imperial War Museum Book of the War in Burma 1942–45* (London: Sidgwick & Jackson, 2002), p. 7.

¹⁷ *Organization of the Japanese Army*, United States War Department Military Intelligence Division, Far Eastern Unit (Washington DC: 31 January 1944), p. 6; *Japanese Recruiting and Replacement System*, United States War Department Military Intelligence Division (Washington DC: July 1945), pp. 75, 93. See also C. Patrick Howard, “Behind the Myth of the Jungle Superman: A Tactical Examination of the Japanese Army’s Centrifugal Offensive, 7 December 1941 to 20 May 1942,” MA thesis (Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, 2000), p. 102. Howard cites order of battle information from Mainichi Newspaper Company’s *Nippon no Senshi, Dai 7 to 8 Kan, Taiheiyo Senso 1 to 2* (Japanese Military History, Volumes 7 and 8, Pacific War Parts 1 and 2) (Tokyo: Mainichi Newspaper Company, 1978).

¹⁸ *Japanese Recruiting and Replacement System*.

¹⁹ *Japanese Recruiting and Replacement System*; Edward J. Drea, “In the Army Barracks of Imperial Japan,” *Armed Forces and Society*, Vol. 15, No. 3 (Spring 1989), pp. 332-334.

²⁰ Howard, 92.

²¹ Louis Allen, *Burma: The Longest War 1941–1945* (London: J.M. Dent & Sons, 1984), p. 23.

²² Drea, *In the Service of the Emperor*, 63.

²³ Drea, *In the Service of the Emperor*, 65.

effective junior leadership,²⁴ and the infantry regularly received higher-quality officers than other branches from the Military Academy.²⁵ Fundamentally, IJA doctrine and method of warfare relied on qualitative intangibles among its soldiers in fighting spirit, aggressiveness, and belief in victory.²⁶ IJA training was “intense,” “thorough,” “severe,” and emphasized core abilities for light infantry.²⁷ Infantry conscript training covered two years of basic skills, including frequent marches greater than 20 miles per day, escalating to battalion and regimental exercises.²⁸ Once a division deployed, a detachment remained in Japan aligned with geographic recruiting administrations and was responsible for training replacements.²⁹ Overall, this combination of doctrine and training produced, tough, disciplined infantry with core skills and abilities. However, the doctrinal demands for initiative and creativity were prescribed to a greater extent than prepared or practiced.³⁰

Japanese practices remained relatively unchanged by combat experience in China and Manchuria. Assessments often reinforced infantry-based offensive action as the key for victory, and fighting in China during the 1930s “seemed to confirm the validity of the Japanese way of warfare.”³¹ Notably, defeat by the Red Army at Nomonhan in 1939 failed to produce any major revisions of established practices, despite meticulous study and several internal criticisms of army performance.³² Rather, Japan’s Army General Staff reinforced established methods that emphasized fighting spirit.³³ IJA leaders concluded that, to overcome material shortcomings during battle, the most significant lesson was the necessity for morale, fighting spirit, leadership, and spiritual power.³⁴ Furthermore, Nomonhan had no significant impact on doctrine or its underlying assumptions about short, decisive warfare.³⁵ Thus, the IJA reaffirmed its emphasis on moral attributes and psychological factors

²⁴ Drea, *Nomonhan*, 18-19.

²⁵ Drea, *In the Service of the Emperor*, 63.

²⁶ For initial training of conscripts, see Drea, “In the Army Barracks of Imperial Japan.”

²⁷ *Periodical Notes on the Japanese Army No. 1: General Characteristics, Morale, and Training 1944* (United Kingdom: The War Office, August 1944), pp. 5-6.

²⁸ *Periodical Notes on the Japanese Army No. 1*, 3.

²⁹ *Periodical Notes on the Japanese Army No. 1*, 2-3.

³⁰ *Periodical Notes on the Japanese Army No. 1*, 15-16.

³¹ Drea, *Nomonhan*, 20.

³² Drea, *In the Service*, 1-25.

³³ Alvin D. Coox, *Nomonhan: Japan Against Russia, 1939* (Stanford, California: Stanford University Press, 1985), p. 1009.

³⁴ Drea, *Nomonhan*, 90.

³⁵ Drea, *Nomonhan*, 86.

for winning operations.³⁶ Any potential lessons from 1939 “had not been assimilated or heeded by 1941–42.”³⁷ There was no alteration of units or methods before fighting in Burma.

Regarding jungle warfare, the IJA lacked specialized preparation or substantial general guidance. First, there was no doctrine. The one doctrinal reference most similar to jungle fighting was found in the 1938 *Field Service Regulations* which contained only three pages concerning wooded terrain as well as populated areas.³⁸ The military academy’s tactical manual also lacked reference to jungle warfare or forest fighting, despite including guidance on other techniques such as river crossings, artillery placement, traffic routes, and map drawing.³⁹ Subsequently, conscript training before 1941 contained “little or nothing especially relevant to tropical warfare.”⁴⁰ Second, the IJA conducted very limited tactical jungle training prior to fighting in Southeast Asia, even after creating a new research group. Formed in 1941, the 30-member Taiwan Army Research Section had only six months to prepare for warfare across the Pacific region by assessing and reporting recommendations regarding army organization, equipment suitability, geography, weapons maintenance, overall campaign directions, sanitation, logistics, administration of seized territory, military strategy, and tactics.⁴¹ Members of the IJA’s Taiwan Army—not units to invade Burma—conducted short-term manoeuvres that concentrated on sea transport and disembarkation, still with little emphasis on jungle tactics.⁴² IJA planners prioritized Malaya for preparations and selecting units, with more specific research led by section commander Colonel Masanobu Tsuji. His work included reconnaissance trips and a visit to the Formosa

³⁶ Coox, *Nomonhan*, 1082.

³⁷ Coox, *Nomonhan*, 1022.

³⁸ Drea, *In the Service of the Emperor*, 63. Drea also cites Rikugun daijin (War minister imperial Japanese army), *Sakusen yomurei dai 2 bu* (Field service regulations, pt. 2 [1938]), ed., Nihon bungeisha (Tokyo: Nihon bungeisha, 1969 reprint of 1938 FSR), pp. 129-132, *In the Service of the Emperor*, 63, footnote 15. See also Moreman, *The Jungle*, 25.

³⁹ *Applied Tactics Japanese Army Translation of Japanese Manual Revised 1938* (Pacific Unit M.I.D. War Department: Washington DC, October 1943), translation of “Oyo Senjutsu No Sanko.”

⁴⁰ Stephen Bull, *World War II Jungle Warfare Tactics* (Oxford, Great Britain: Osprey Publishing, 2007), p.13.

⁴¹ Masanobu Tsuji, *Japan’s Greatest Victory Britain’s Worst Defeat* (New York: Sarpedon Publishers, 1997), p. 2, edited by H.V. Howe, translated by Margaret E. Lake, first published 1952 in Japan in slightly different form as *Shonan: The Hinge of Fate*.

⁴² Tsuji, 8-9.

jungle training school, but it appears that Tsuji completed little work on actual jungle warfare tactics during his time in Taiwan due to other requirements.⁴³ The Taiwan Army Research Section failed to deliver significant impact on the 55th or 33rd divisions which invaded Burma, although it did produce Japan's only instruction on tropical warfare, a short pamphlet provided to the specific units departing to Malaya as they boarded ships for the invasion.⁴⁴ Authored by Tsuji and designed to be read quickly while underway to invade, the pamphlet delivered general advice about weather and disease but contained little tactical guidance.⁴⁵ With a translated length of 33 pages, the pamphlet's most specific tactical prescriptions regarded sea transport, disembarkation, and the landing assault, with other general details about tropical movement, sleeping, and camping.⁴⁶ One paragraph specifically addressed jungle movement and it delivered the manual's most-detailed recommendations for jungle fighting:

By jungle is meant dense forest in which a large variety of trees, grasses, and thorny plants are all closely entangled together.... This type of terrain is regarded by the weak-spirited Westerners as impenetrable, and for this reason—in order to outmaneuver them—we must from time to time force our way through it. With proper preparation and determination it can be done.⁴⁷

Apart from this pamphlet, Fifteenth Army attacking into Burma possessed “no experience of jungle warfare nor a doctrine for how to conduct it.”⁴⁸ The force would rely on light infantry tactics prepared for mobile warfare in open terrain against the Soviet Union, applied in an unfamiliar terrain against a different adversary.⁴⁹ Therefore, a scenario existed which would appear highly vulnerable to unexpected setbacks that could require adaptation to overcome them. Fortunately for the Japanese, defending units were prepared even less.

⁴³ Tsuji; Bull, 13.

⁴⁴ Howard, 45; Bull, 14.

⁴⁵ *Read This Alone—And the War Can Be Won* (Tokyo: Imperial Army Headquarters, 1941), translated by G.W. Sargent, Department of Oriental Studies, University of Sydney, Australia, reprinted as Appendix 1 in Tsuji, 237-265.

⁴⁶ Tsuji, 246-257.

⁴⁷ Tsuji, 267.

⁴⁸ Alan Jeffreys, *The British Army in the Far East 1941-1945*, Battle Orders series number 13 (Oxford, Great Britain: Osprey Publishing, 2005), p. 13

⁴⁹ Moreman, *The Jungle*, 24-25.

British and Burmese Defending Forces

Defending Burma were “two weak divisions.”⁵⁰ The 17th Indian Division included 2nd Burma Brigade, along with the 46th, 16th, and 48th Indian brigades. The 1st Burma Division possessed the 13th Indian Brigade and 1st Burma Brigade.⁵¹ The forces would operate as the Burma Army under Commander-in-Chief Lieutenant-General Thomas Hutton, himself subordinate to regional Commander-in-Chief General Archibald Wavell headquartered outside the country.⁵² Defending troops were largely unprepared and under-trained, reflecting larger challenges associated with army growth that sacrificed near-term readiness for longer-term force expansion.

The 17th Indian Division was new and unready. Formed as part of the larger Indian Army expansion from 1939–41, the division suffered like most others from inexperienced personnel, limited training and an overall state of low readiness. The expansion had fundamentally changed the Indian Army from a small, specialized military into a massive wartime force “at a speed with had never been envisioned.”⁵³ Personnel increased from 183,000 to over 1,000,000 which diluted overall quality.⁵⁴ Creating new formations pulled from regular units and depleted the reserves, and then many of the newly-raised units were again divided for the new units inside the regiment.⁵⁵ Now, “a large number of the new Indian troops had little basic

⁵⁰ Allan Millett and Williamson Murray, *A War to be Won: Fighting the Second World War* (Cambridge, Massachusetts: The Belknap Press of Harvard University Press, 2000), p. 187. Chinese forces also engaged IJA forces in Northeast Burma after the fall of Rangoon during the retreat phase, slowing several Japanese units as well as allowing 1st Burma Division to move, but during the British retreat they played a relatively minor role.

⁵¹ S. Woodburn Kirby, *India's Most Dangerous Hour*, History of the Second World War United Kingdom Military Series Volume II, edited by James Butler (Uckfield, East Sussex: The Naval & Military Press Ltd, 2004), pp. 443, 439, originally published 1958.

⁵² Burma shifted between commands and commanders several times during this period: from Far East Command to India Command on 12 December 1941, then to ABDA Command on 15 January 1942, and finally back to India Command on 25 February. Wavell commanded over Burma in three separate positions during this period, with General Sir Alan Hartley assuming command during absences. Hutton replaced McLeod on 27 December but later was fired in March and replaced by General Harold Alexander, which also is when Burma forces reorganized with a corps. See Willmott, *Empires in the Balance*, 406-407.

⁵³ S. Woodburn Kirby, *The Loss of Singapore*, History of the Second World War United Kingdom Military Series Volume I (Uckfield, East Sussex: The Naval & Military Press Ltd, 2004), p. 515, originally published 1957.

⁵⁴ Raymond Callahan, *Burma 1942–1945* (London: Davis-Poynter, 1978), pp. 23-24.

⁵⁵ Srinath Raghavan, *India's War: The Making of Modern South Asia, 1939–1945* (London: Allen Lane of Penguin Books, 2016), p. 188. See Daniel P. Marston, *Phoenix from the Ashes: The Indian Army in the Burma Campaign* (Westport, Connecticut: Praeger Publishers, 2003), pp. 42-43.

training.”⁵⁶ Within the 17th Indian Division, several battalions had joined their brigades only six weeks before arriving in Burma, with limited preparations.⁵⁷ One brigade commander assessed that “most of the young soldiers had not reached even a reasonable standard of efficiency” in their weapons.⁵⁸ Another concluded that, “no one had any experience of jungle, except for a few senior officers.”⁵⁹ Inexperienced officers and NCOs made training even more difficult, contributing to an absence of collective training.⁶⁰ The 1st Burma Division had received “no collective training at all.”⁶¹ Once units arrived in Burma during late 1941, very few had additional training and “were equally inexperienced and ill-equipped” to fight the Japanese.⁶²

In addition, most preparations had been for open warfare in the Middle East rather than infantry-based jungle fighting. In the desert, the importance of tanks caused infantry often to hold static defensive positions or to move in troop-transport vehicles—tasks poorly suited for infantry-led jungle fighting.⁶³ Training prior to deployment often used open fields to simulate the desert, while also assuming sustained logistical support via road-based resupply.⁶⁴ As such, the 17th Indian Division trained in India for Middle East operations and any specialized training reflected its emphasis on tank-led, mechanized desert warfare.⁶⁵ Force organization also made units unprepared to defend using small-unit actions against light infantry. Reliance on a road-bound transport system limited defensive flexibility and created lines of communication which could be vulnerable when over-extended.⁶⁶ Operationally, Burma’s limited road network meant that a force relying on road

⁵⁶ Alan Jeffreys “Training the Indian Army, 1939–1945,” in Alan Jeffreys, ed., *The Indian Army, 1937–1949: Experience and Development* (Surrey, England: Ashgate Publishing Limited, 2012), p. 76.

⁵⁷ Kirby, *India’s Most Dangerous Hour*, 440.

⁵⁸ As assessed by commander of the 44th Indian Infantry Brigade, Brigadier G.C. Ballentine, in Kirby, *India’s Most Dangerous Hour*, 440.

⁵⁹ As assessed by commander of the 16th Indian Infantry Brigade, Brigadier J.K. Jones, in Kirby, *India’s Most Dangerous Hour*, 441.

⁶⁰ IOR L/WS/1/1371, Report of the Infantry Committee 1943, War Staff India Office 1-14th June 1943, p. 12; Jeffreys, *Training*, 79.

⁶¹ Raghavan, 199.

⁶² Raghavan, 199.

⁶³ Tim Moreman, “From the Desert Sands to the Burmese Jungle: The Indian Army and the Lessons of North Africa, September 1939–November 1940,” in Kaushik Roy, ed., *The Indian Army in the Two World Wars* (Boston, Massachusetts: Brill, 2012), p. 228.

⁶⁴ Marston, *Phoenix*, 43.

⁶⁵ Jeffreys, *The British Army*, 43.

⁶⁶ Moreman, *The Jungle*, 42; William J. Slim, *Defeat into Victory: Battling Japan in Burma and India, 1942–1945* (New York: Cooper Square Press, 2000), p. 29, updated introduction with an unabridged republication of the edition originally titled *Defeat Into Victory* published in 1956.

transport possessed few avenues for movement and therefore its lines became inflexible and predictable.

Unlike the larger British Army, the Indian Army could directly issue training directives to its formations. The British Army lacked comprehensive doctrine or mechanisms for learning wartime lessons,⁶⁷ but the Indian Army possessed some capacity for issuing directives through the General Staff via official manuals and instructions, to include new training and combat lessons.⁶⁸ The problem was that directives emphasized frontier warfare and how to improve fighting across the North-West frontier, or were otherwise inappropriate for Burma.⁶⁹ The Indian Army possessed some formal guidance regarding jungle warfare, but nowhere near a comprehensive doctrine. In 1940 army leadership published the 11-page *Military Training Pamphlet No. 9 (India) Extensive Warfare: Notes of Forest Warfare* about fighting in thick forests in Africa or Asia.⁷⁰ *MTP9* emphasized ingenuity, mobility, patrols, small-unit initiative, flank attacks, and jungle movement, largely due to limited transportation networks.⁷¹ It warned to be “ready for enemy appearing anywhere” but “do not fear enemy penetration.”⁷² Some forces in Burma received *MTP9*, but “little evidence exists that troops trained according to its guidelines.”⁷³ The army also lacked relevant guidance for infantry tactics in the jungle. The core text remained *Field Service Regulations Volume II: Operations*, which presented warfare through a universal set of principles with little specific guidance.⁷⁴ It included thirteen points on “Bush Fighting,” but anticipated that any fighting would be against “either untrained savages armed with modern rifles or spears, bows and arrows, and muzzle-loading guns, or trained troops led by Europeans.”⁷⁵ *Army in*

⁶⁷ A scenario which received some criticism for causing slow adaptation. See Russell A. Hart, *Clash of Arms: How the Allies Won in Normandy* (Norman, Oklahoma: University of Oklahoma Press, 2001), pp. 327-328.

⁶⁸ Tim Moreman, “‘Passing it On’ The Army in India and Frontier Warfare, 1914–39,” in Kaushik Roy, ed., *War and Society in Colonial India: 1807–1945* (New Delhi, India: Oxford University Press, 2010), p. 276, second edition, originally published 2006.

⁶⁹ Moreman, “‘Passing it On,’” 297-298; Jeffreys, *The Indian Army*, 79.

⁷⁰ *Military Training Pamphlet No. 9 (India) Extensive Warfare: Notes on Forest Warfare* (Simla, India, 1940).

⁷¹ *Military Training Pamphlet No. 9* (1940), 3-5.

⁷² *Military Training Pamphlet No. 9* (1940), 5-6.

⁷³ Moreman, *The Jungle*, 36.

⁷⁴ *Field Service Regulations Volume II: Operations*, (London: HM Stationary Office, the War Office: 1929).

⁷⁵ *FSR II*, 208.

India Training Memorandum No. 6, published in April 1941, was the first *AITM* to address jungle warfare but it was only one page of guidance about “Warfare in Mountainous and Forest Countries.”⁷⁶ Additionally, “little was done to remedy these deficiencies or familiarize troops with jungle conditions.”⁷⁷ Partially due to a widespread belief that large-scale operations in the jungle were impossible, there was no true preparation for infantry-led jungle fighting before the Japanese invaded. And once they did, the limited lessons emerging about jungle warfare from Malaya had little impact in Burma due to the short timeframe and lack of higher direction.⁷⁸

For the specific forces preparing to defend Burma, new units had arrived as brigades without preparation operating as a division. Initially, only the division headquarters and 46th Brigade arrived in Burma, later receiving the 16th and 48th Indian brigades and 2nd Burma Brigade.⁷⁹ The 17th Indian Division lacked integration, conducted very little jungle training, and commander Major-General John Smyth concurred with higher headquarters that the young unit possessed deficient readiness.⁸⁰ Most forces didn’t arrive in Burma until early January 1942 and were activated immediately for battle with limited preparation once inside the country.⁸¹ The 1st Burma Division assembled during 1941 as a weak garrison force supplemented by additional units, and lacked any significant preparation for operating as infantry or in the jungle. The 13th Indian Brigade arrived in April as a reserve in Mandalay, and in mid-year the country’s other internal security units reorganized to become the 1st and 2nd Burma Brigades under the 1st Burma Division, joined by two British battalions in Rangoon for domestic security.⁸² The 1st Burma Brigade included the newly-raised four battalions of indigenous Burma Rifles, and the Burma Military Police gendarmerie that previously served as the Burma Frontier Force, units designed and prepared for border control and internal security.⁸³ Uniquely, the Burma Military Police possessed a 1928 manual for jungle warfare

⁷⁶ *Army in India Training Memorandum, No. 6 War Series April 1941* (Simla: Government of India Press, 1941), p. 5.

⁷⁷ Moreman, *The Jungle*, 36.

⁷⁸ Moreman, *The Jungle*, 37.

⁷⁹ Later, in March, the 63rd Indian Brigade would arrive and join the division. Willmott, *Empires in the Balance*, 406.

⁸⁰ Jeffreys, *The British Army*, 43.

⁸¹ Willmott, *Empires in the Balance*, 406.

⁸² Willmott, *Empires in the Balance*, 405.

⁸³ Dunlop, 20; Charles Chevenix Trench, *The Indian Army and the King’s Enemies 1900–1947* (German Democratic Republic: Thames and Hudson, 1988), pp. 196–197.

but it emphasized tribal subjugation and was inappropriate for the upcoming battles.⁸⁴ Additional formations would arrive in January and February, to include three Gurkha battalions and a regular armour company, but overall the units remained understrength and ill-prepared.⁸⁵

In preparation for the impending IJA attack, forces positioned along Burma's eastern border with Siam in small pockets to hold approaches and then to oppose invaders as they attempted to traverse the five rivers leading to Rangoon.⁸⁶ Already hindered by limited personnel and low readiness, the force disposition did not help. The forward deployment "was weak, for it meant tying isolated and unsupported units to villages that could be either outflanked or reduced by a concentrated enemy."⁸⁷ This disposition likely increased risks, vulnerabilities, and would exacerbate setbacks during the operation. However, the disposition could not reconcile the larger disparity in skill, readiness, and tactics. These deeper, structural deficiencies would have significant impact during the operation.

Invasion, Surprise, Setbacks, and Retreat

The Japanese invasion and thrust north entailed numerous events, actions, reactions, and responses, but the overall trend is clear. Over several weeks invading IJA forces would prove that "Japanese tactics, especially flanking movements at night through difficult terrain, could not be halted by road-bound Allied troops."⁸⁸ The result was "an unmitigated disaster" and the longest retreat in British history.⁸⁹ Setbacks accumulated, combined, and cascaded, so that "the Army in Burma had no real chance of stopping the Japanese and suffered a string of defeats."⁹⁰ Neither side

⁸⁴ The manual emphasized ambushes and destroying crops and villages, with the model campaign a column operating against frontier tribes through civilian punishment and pursuing small armed bands. It lacked doctrine, procedures, or any additional training for operating against infantry as conventional forces either in offence or defence. *Manual of Jungle Warfare for Officers of the Burma Military Police* (Rangoon: Supdt., Government Printing and Stationary, 1928) pp. 4-6, 10, 53; see also Jeffreys, *The British Army*, 13.

⁸⁵ Willmott, *Empires in the Balance*, 406.

⁸⁶ The rivers from east to west as the Fifteenth Army would meet them: the Thaungyin (Moei) at the border of Siam (Thailand); the Salween which forms a parallel tributary of the Thaungyin; the Bilin; the Sittang (Sittaung); and the Pegu (Bago). The Irrawaddy is Burma's largest river and is navigable for movement but is located west of Rangoon. Yenne, 191.

⁸⁷ Willmott, *Empires in the Balance*, 414.

⁸⁸ Millett and Murray, *A War to be Won*, 188.

⁸⁹ Millett and Murray, *Military Effectiveness Vol. 3*, 120.

⁹⁰ Jeffreys, *The British Army*, 45.

implemented change sufficient to be considered adaptation, but for different reasons: the defenders had no ability or time, while the attackers had no need. British-led Allied forces consistently struggled against Fifteenth Army's offensive tactics and in the jungle, factors that were mutually reinforcing but entailed distinct challenges. These problems would become obvious once fighting began.

On 20 January 1942, IJA Fifteenth Army invaded using offensive tactics through the jungle that consistently outfought defending forces, opened the path to Rangoon, and chased defenders out of Burma.⁹¹ Almost immediately units from the IJA 55th Division infiltrated the 16th Indian Brigade's defences and caused a disorganized retreat.⁹² The IJA's force organization and offensive doctrine appeared uniquely suited to the Burmese jungle: the light infantry possessed sufficient mobility to move throughout the terrain, they had the skills to do so, and the restricted visibility "made it an almost perfect medium for attack" since troops were difficult to detect and defenders' flanks were frequently insecure.⁹³ In contrast, the defenders possessed widespread "ignorance of the jungle" and "perhaps above all poor training."⁹⁴ These shortcomings could be seen when the 16th Indian Brigade was quickly disrupted and pushed to Dawnas in disarray within 48 hours. It was "a grim foretaste of things to come," seen in IJA speed, exploitation, and "ruthlessness with which they drove forward across terrain considered impassable."⁹⁵ The early battles followed a pattern of Japanese attackers moving through the jungle for powerful strikes against units that consistently proved road-bound, unprepared, and without time to change.⁹⁶ Some collapsed and disintegrated.⁹⁷

Defenders withdrew from the Bilin River to the Sittang River Bridge which now presented as the last vital defensive point between invaders and Rangoon.⁹⁸ IJA units outraced the retreating defenders, attacked those guarding the bridgehead, and

⁹¹ For additional details regarding Fifteenth Army's preparatory movements and unit structure, see Willmott, *Empires in the Balance*, 412.

⁹² Moreman, *The Jungle*, 37-38.

⁹³ Moreman, *The Jungle*, 14.

⁹⁴ Moreman, *The Jungle*, 37-38; Jeffreys, *The British Army*, 44.

⁹⁵ James Lunt, *A Hell of a Licking: The Retreat from Burma, 1941-42* (London: Collins, 1986), p. 106.

⁹⁶ Moreman, *The Jungle*, 38.

⁹⁷ For extreme example, the 7th Burma Rifles at Moulmein on 30 January. Jeffreys, *The British Army*, 44; Moreman, *The Jungle*, 38.

⁹⁸ For greater details regarding the river defences, see Basil Collier, *The War in the Far East 1941-1945, A Military History* (London: Heinemann, 1969), pp. 219-239.

seized nearby hills.⁹⁹ On 23 February as two IJA regiments approached the bridge,¹⁰⁰ members of 17th Indian Division destroyed it which trapped the 16th and 46th brigades on the wrong side—half the division’s strength.¹⁰¹ This event reduced the unit to 3,500 personnel, 41% of its total strength,¹⁰² “finishing the division as a fighting force until reinforced and re-equipped.”¹⁰³ It also caused Wavell to replace commanders of both the Burma Army and 17th Indian Division.¹⁰⁴ By losing the bulk of defending forces as well as control over the Sittang River, defenders now possessed no real capacity to prevent IJA progress toward Rangoon or its almost-certain seizure. IJA units continued to apply their basic infantry tactics and exploited advantages in relative speed, mobility, and small-unit skills to push toward the capital. The remaining parts of 17th Indian Division was temporarily encircled and trapped by a roadblock, fortunate to survive. Simultaneously, British reinforcements arrived on 5 March with the 63rd Indian Brigade, but the new forces had little ability or time to address the IJA momentum.¹⁰⁵ Forces reorganized into a newly-created Burma Corps commanded by Major-General Bill Slim, with the 17th Indian Division, 1st Burma Division, and newly-arrived 7th Armoured Brigade.¹⁰⁶ One day later the Burma Army escaped Rangoon and retreated 200 miles north to Prome. With the capital now undefended, on 8 March the IJA 33rd Division “advanced straight towards Rangoon without meeting much resistance, and took the city.”¹⁰⁷ Cut from reinforcements and external resupply,¹⁰⁸ defenders lost the ability to sustain a major force or large-scale operation inside Burma.

⁹⁹ Moreman, *The Jungle*, 40.

¹⁰⁰ Dunlop, 24. IJA regiments were the 214th and 215th from the 33rd Division. Yenne, 192.

¹⁰¹ Yenne, 192.

¹⁰² Callahan, 35.

¹⁰³ Moreman, *The Jungle*, 40.

¹⁰⁴ Jeffreys, *The British Army*, 45; Yenne, 192-193. Smyth was replaced by Major-General D.T. “Punch” Cowan as division commander on 2 March 1942, while General Sir Harold Alexander relocated to Rangoon to command the country’s defence.

¹⁰⁵ Moreman, *The Jungle*, 42.

¹⁰⁶ The 7th Armoured Brigade arrived between 28 January and 21 February. Overall, this updated command structure would facilitate withdrawal to India but had limited impact on the operations unfolding at the time. Willmott, *Empires in the Balance*, 406; Yenne, 278.

¹⁰⁷ Messervy 12, Outline of the History of Operations of the Japanese Forces in Burma, submitted by HQ Burma Area Army to HQ Twelfth Army in Oct 1945, p 18, *The Japanese Account of their Operations in Burma, December 1941–August 1945*, LHCMA.

¹⁰⁸ With the exception of very limited aerial resupply capabilities. Forces were isolated from India due to the limited transportation networks. See Dunlop, 26.

The IJA invasion and seizure of Rangoon required almost zero deviation from original planning, and the IJA's account of the operation indicates no significant challenges or setbacks.¹⁰⁹ Now controlling Rangoon and its critical port, the IJA reinforced. Fifteenth Army gained two divisions as they arrived in the capital, the 18th from Singapore and the 56th from Java, delivering the largest concentration of operational IJA ground forces in Southeast Asia. The final Japanese drive north "did not lead to any major changes in fighting methods" as Fifteenth Army infiltrated the outnumbered, over-extended British, and encircled units on a large scale.¹¹⁰ In April Fifteenth Army pushed northward while defenders struggled to slow the invaders south of Mandalay. By mid-April the 1st Burma Division, trapped at Yenangyaung, burned the oil fields. Soon after, IJA 56th Division turned the Allied flank and began to collapse the front as forces retreated out of the country, ceding it to Japanese control. By 28 May nearly all Burma Corps troops had passed into India after a 900-mile retreat.¹¹¹ Burma Corps was dissolved. All remaining forces were transferred to IV Corps and India Command.

Measuring Effectiveness and Outcome

The IJA Fifteenth Army invasion presents a clear example of operational success. Attacking forces controlled Rangoon within eight weeks and seized all the critical locations after only five months. To gain control of the country cost Fifteenth Army only 2,000 battlefield deaths—far less than the 10,000 casualties in Malaya and Singapore, considered one of the most decisive routs in modern warfare.¹¹² Quickly, decisively, and relatively inexpensively, Fifteenth Army seized all objectives deemed critical for control and never truly appeared close to battlefield defeat.

Yet this example also indicates how outcome and performance are not always perfectly aligned, as Fifteenth Army operational effectiveness is rated as intermediate. IJA forces consistently applied complex tactics but never delivered sophisticated manoeuvre or combined arms across units. While applied for

¹⁰⁹ Messervy 12, 17.

¹¹⁰ Moreman, *The Jungle*, 43.

¹¹¹ McLynn, 39.

¹¹² Millett and Murray, *A War to be Won*, 188, 181, 50. Or compared with the 11,000 German deaths in Poland, where also the Germans suffered 30,000 wounded and 3,400 missing in action, compared to Polish losses of 70,000 killed, 133,000 wounded, and 700,000 taken prisoner.

impressive effects, the IJA essentially applied “grand tactics” that used mobility and tempo to outflank and to assault.¹¹³ The higher-echelon units employed the same techniques simply on a larger scale, without significant inter-unit coordination or any synergistic application of effects. The performance “at the tactical level is what won,”¹¹⁴ as rapid assaults and pursuit were suitable for the terrain and sufficient against the unready defenders. IJA success depended largely on an alignment of strengths in their basic skills for applying core infantry tactics in the jungle. Units consistently displayed their proficiency in small-unit engagements using ambush, movement, and attack. Forces also displayed basic coordination of ground firepower, and the two divisions operated well within a flexible plan, particularly regarding the seizure of Rangoon and subsequent pursuit. Tactically, the British forces “had been completely outclassed,” particularly as the IJA held defending units in place while conducting a wide turning movement around the flank, through the jungle to attack a line of communication.¹¹⁵ This hook technique was not new but was applied very well. Notably, the IJA “were not jungle experts.”¹¹⁶ When IJA units moved out of the jungle into the open plains of the Irrawaddy Valley in pursuit, the same tactics proved effective outside the jungle against defenders as they withdrew to India.¹¹⁷ The IJA suffered no setbacks, and their intermediate-level effectiveness was plenty sufficient for victory.

By comparison, British operational effectiveness was low and the outcome a failure. Put simply, unprepared troops performed poorly. Although a few exceptions exist,¹¹⁸ personnel and units consistently struggled with basic skills and core combat abilities. Units were “half trained, and the training they had received was for the wrong environment.”¹¹⁹ Defenders were unprepared in basic techniques and “insufficiently mobile off the roads.”¹²⁰ After losing the Sittang River, “the fate of

¹¹³ Drea, *In the Service of the Emperor*, 11; Alvin D. Coox, “The Effectiveness of the Japanese Military Establishment in the Second World War,” in Millett and Murray, *Military Effectiveness Volume 3*, 30-39.

¹¹⁴ Howard, 76.

¹¹⁵ Slim, 119.

¹¹⁶ Marston, *Phoenix*, 73.

¹¹⁷ Moreman, *The Jungle*, 43,

¹¹⁸ Notably the 7th Armour Brigade.

¹¹⁹ Marston, *Phoenix*, 72.

¹²⁰ Marston, *Phoenix*, 73; Dunlop, 27.

Rangoon was no longer in doubt,” and with it the country.¹²¹ Only an orderly retreat saved the units from greater disaster.

However, this last point is notable, reminding how Fifteenth Army failed to destroy defending forces in the field—the primary objective.¹²² Retreating forces suffered about 1,400 deaths, no small sum, but significantly less than the 38,000 in Malaya and Singapore.¹²³ They also largely evaded capture, also unlike in Malaya and Singapore with 130,000 prisoners and internees, or in the Philippines with 72,000 prisoners, or the Dutch East Indies with 93,000 captured Allied troops.¹²⁴ In Burma, many of the forces escaped and arrived in India. The 17th Indian Division, while reduced and battered, was “still capable of functioning as a division.”¹²⁵ A nucleus remained that the Japanese, “for all their advantages of initiative and numerical superiority, had failed to annihilate.”¹²⁶ Sanctuary, protected by terrain and the upcoming monsoon, had saved many of the retreating forces.

Figure 3.1: Measuring Adaptation, Effectiveness, Outcome: Japanese Invasion

	WARTIME CHALLENGE	TACTICAL ADAPTATION	OPERATIONAL EFFECTIVENESS	IMPACT ON OUTCOME	OPERATIONAL OUTCOME
IJA	NONE	NONE	INTERMEDIATE	DID NOT PREVENT SUCCESS	SUCCESS
GB	IJA INFILTRATION; JUNGLE MOVEMENT	NONE	LOW	EXACERBATED SETBACKS	FAILURE

Findings and Relevance

Case Study Assessment: Lack of tactical adaptation by IJA Fifteenth Army during the 1942 invasion did not create significant setbacks or prevent operational success.

¹²¹ Burma Army commander Hutton later concluded that “failure was inevitable.” In Hutton 3/1, Letter from Hutton to Wavell, 03 March 1942, page 2, Book 1-67, LHCMA; Hutton 3/1, Note by Lieut-General T.J. Hutton, on the Burma Campaign up to the fall of Rangoon, page 4, point 11, Book 1-95, LHCMA.

¹²² Willmott, *Empires in the Balance*, 413.

¹²³ Millett and Murray, *A War to be Won*, 188, 181. Reported numbers of total casualties vary; Burma Corps commander listed 13,000 killed, wounded, missing, or evacuated. Slim, 114.

¹²⁴ Millett and Murray, *A War to be Won*, 181, 186-187.

¹²⁵ The 1st Burma Division could no longer function as a unit. Most personnel were sent home and its headquarters was absorbed into a training division. Slim, 113.

¹²⁶ Willmott, *Empires in the Balance*, 432.

In this case study, hypothesis 1 (H1), central vertical information mechanism over decentralized horizontal, comes out as neutral. H1 is inapplicable due to insufficient evidence. Minor changes that occurred prior to the invasion such as the IJA's short pamphlet from the Taiwan Army Research Station, the 17th Indian Division's minor preparations before deployment, or the Indian Army's issuance of *MTP9* (first edition), were not in response to battlefield setbacks in Burma. Also, they had limited impact on performance.

Hypothesis 2 (H2), anticipation over improvisation, is disputed. Both forces during the 1942 invasion anticipated incorrectly regarding terrain and adversary, but with very different results. Japanese preparations for open warfare against the USSR across Manchurian plains created no significant problems for jungle fighting against Allied forces in Burma while British preparations for open warfare against the Germans and domestic internal defence in Burma led to failure. Neither side improvised to create new tactics, techniques, or procedures that impacted upon effectiveness or outcome. This hypothesis reflects a larger challenge for this case study in that it is very difficult to measure a condition or type of adaptation when there was no significant battlefield change. However, H2 is considered disputed due to the costs and degree of Indian Army mistaken anticipation. Being so wrong, and the high costs this caused, combine to challenge the notion that anticipation will produce superior ideas through foresight, perspective, analysis, and implementation.

Hypothesis 3 (H3), skill over technology, is affirmed. Findings from this case study appear most relevant for H3 as IJA attackers exploited a significant imbalance in skill despite less-advanced technology or modernization. Throughout the operation retreating defenders needed time and space to address their skill deficiencies that had resulted from insufficient or deficient training. Thus, the 1942 invasion provides a strong example of the relevance, necessity, and impact of thorough and effective training in basic skills as it relates to battlefield performance and outcome. A less-equipped, less-advanced, attacking force without a significant numerical advantage used unchanged methods applied in a consistent pattern to outperform its more-advanced adversaries, and to attain a decisive success. While H3 shares a similar problem with the other hypotheses regarding the difficulty of measuring conditions for tactical adaptation when there was limited change, this case suggests that a skill imbalance can be highly dangerous, and in some cases may

overcome a technological imbalance. Therefore, skills developed through training may be more valuable than some types of resources, equipment, or technological sophistication. Unfortunately for the British, this lesson would be displayed again in their next operation.

Figure 3.2: Findings for the Japanese Invasion

Measurement Scale: (+) Affirm \Leftarrow Support \Leftarrow Neutral \Rightarrow Dispute \Rightarrow Contradict (-)

	INVASION 1942	FIRST ARAKAN 1942-43	SECOND ARAKAN 1944	FIRST LRPG 1943	SECOND LRPG 1944	IMPHAL 1944	BREAKOUT 1945
H1: CENTRAL	NEUTRAL						
H2: ANTICIPATE	DISPUTE						
H3: SKILL	AFFIRM						

Chapter Four

Failure to Adapt:

The First Arakan Offensive, September 1942–May 1943

Facing pressure to display British resolve after retreat to India, in 1942 British forces began a limited overland advance down Burma's western coast on the Arakan peninsula to seize Akyab island.¹ This offensive aimed for a "very limited objective" that would deliver minor tactical improvements in return for creating a larger effect in morale and world opinion.² Yet despite this limited aim and British numerical superiority, after several months the attack ended in abject failure as even modest objectives were unattainable against outnumbered Japanese defenders in their bunkers. British forces applied unchanged tactics in uncoordinated, massed, frontal assaults across a narrow front, resulting in a decisive defeat. This chapter posits that insufficient British tactical adaptation before and during the operation exacerbated setbacks and contributed to this outcome. Thus, examining the First Arakan Offensive reveals how tactical inflexibility can exacerbate setbacks and contribute to operational failure. This case also suggests how human skill may overcome technological disadvantages, displayed by Japanese defenders with inferior numbers, equipment, and firepower, repulsing a much larger force using its material advantages incompetently.

Forces and Capabilities

Japanese defence of the peninsula appeared light. Of the four IJA divisions in Burma only the 55th was in the country's west, with just one regiment and some divisional units defending the approach to Akyab.³ These units would be isolated from reinforcements for at least several weeks since other forces were spread along the coastline and occupied parts of southern Burma, with larger IJA forces

¹ Douglas Ford, "Strategic Culture, Intelligence Assessment, and the Conduct of the Pacific War: The British–Indian and Imperial Japanese Armies in Comparison, 1941–1945," *War in History*, Vol. 14, No. 1 (2007), p. 87.

² William J. Slim, *Defeat into Victory: Battling Japan in Burma and India, 1942–1945* (New York: Cooper Square Press, 2000), p.149, updated introduction with an unabridged republication of the edition originally titled *Defeat Into Victory* published in 1956.

³ Slim, 40.

elsewhere in central Burma, parts of Assam, and the far northeast.⁴ Commanded by Colonel Kosuke Miyawaki, who would operate under direct command of Fifteenth Army in Rangoon rather than a division commander, the composite defensive group was built around the 213th Regiment responsible for garrisoning Arakan.⁵ This 3,600-strong force included two infantry battalions, one battalion of mountain artillery, a company of engineers, with field, anti-aircraft, and anti-tank guns.⁶ Many of the personnel previously fought in China, and had arrived in Rangoon via sea from Bangkok during the initial invasion before fighting across central Burma.⁷ Regarding preparations for the defence, IJA doctrine emphasized offensive action and generally avoided specific technical guidance, but the IJA did possess and follow some common techniques regarding defence, particularly the use of bunker systems. According to Allied reports, “Japanese doctrine prescribes that ‘even the smallest unit will prepare deeply entrenched and strong positions against the expected attack.’”⁸ Additional evidence compiled across Southeast Asia revealed common IJA practices using defensive bunker systems, as later corroborated during

⁴ Accounts differ on exact defending forces, their posture and command, although the differences appear to have minimal impact on the events, their analysis, or larger conclusions. Most likely the units of 213th Regiment initially belonged to the 33rd Division and were switched in preparation for the operation to 55th Division as it came to reinforce the defenders. However, until the 55th could arrive then the 213th Regiment would operate under Fifteenth Army rather than a division command. Overall, the question of division command had limited impact on the battle since the regiment answered to Fifteenth Army rather than a division commander for the critical phase of the operation. See Louis Allen, *Burma: The Longest War 1941–1945* (London: J.M. Dent & Sons, 1984), p. 96; S. Woodburn Kirby *India’s Most Dangerous Hour*, History of the Second World War United Kingdom Military Series Volume II, edited by James Butler (Uckfield, East Sussex: The Naval & Military Press Ltd, 2004), p. 265, originally published 1958; H.P. Willmott, *Empires in the Balance: Japanese and Allied Pacific Strategies* (Annapolis, Maryland: Naval Institute Press, 1982), p. 412; Slim, 149; Bill Yenne, *The Imperial Japanese Army: The Invincible Years, 1941–1942* (New York: Osprey Publishing, 2014), p. 189.

⁵ Allen, *Burma*, 97.

⁶ Allen, *Burma*, 96.

⁷ Allen, *Burma*, 96. In 1942 the Fifteenth Army was commanded by Lieutenant General Shojiro Iida and comprised of the 55th Division commanded by Lieutenant General Hiroshi Takeuchi, and the 33rd Division commanded by Lieutenant General Shozo Sakurai. See Yenne, 189. Both divisions initially lacked a third regiment, with the 33rd gaining the 213th during the battles for central Burma. In Willmott, *Empires*, 412, 423.

⁸ *Soldier’s Guide to the Japanese Army*, Military Intelligence Service (Washington DC: War Department, 15 November 1944), p. 157.

the operation.⁹ However, Japanese defenders would face attacking units that possessed significant advantages in numbers and firepower.¹⁰

Following orders originating with Commander-in-Chief India Archibald Wavell to Eastern Army Commander Noel Irwin,¹¹ the plan into Arakan eventually became Operation CANNIBAL.¹² To execute, forces would employ direct infantry attacks across the jungle-clad Mayu hills which ran 90 miles from the Indian frontier and through the coastal terrain, with hills sitting between narrow strips of land with tidal streams often swamped by rain and mud during the late-year monsoon.¹³ The peninsula bordered the Bay of Bengal in the southwest and Mayu River along the east. Eastern Army possessed one unit judged fully operational,¹⁴ so the assault down Arakan would be conducted by Major-General W.L. Lloyd's 14th Indian Division which would grow to three times the normal size during the course of the operation.¹⁵ The division would begin the assault with four infantry brigades, the 47th Indian, 123rd Indian, 55th Indian, 88th Indian; V Force, and two artillery regiments. Later the division would add three more brigades, the 6th British, 71st Indian, and 29th Independent (Commando), resulting in the equivalent of nine brigades.¹⁶ All units would remain under division command rather than an

⁹ *Tactics and Strategy of the Japanese Army in the Burma Campaign from November 1943 to September 1944*, United States Military Observer Group in India, Joint Collection Agency, CBI/SEA (New Delhi: October 1944), pp. 34-37; see also Bob Carruthers, *Tactics of the Imperial Japanese Army, World War II from Original Sources* (Stratford upon Avon, England: Coda Books Ltd, 2013), pp.142-144.

¹⁰ Frank McLynn, *The Burma Campaign: Disaster into Triumph 1942-45* (London: Vintage Books, 2010), p. 100.

¹¹ Allied forces and their command had again reorganized following the retreat into India. Forces now fell under India Command and the newly-established regional command structure that included Eastern Army, a change that also moved commanders. In May 1942 Burma Corps disbanded and transferred all troops to IV Corps in India, responsible for defending the northeast and commanded by Irwin. Slim, commander of Burma Corps, transferred to the new XV Corps. Soon Irwin was promoted to command Eastern Army and replaced in IV Corps by Geoffrey Scoones. More changes would come later. For examining the First Arakan Offensive, the key command chain is Wavell, Irwin, and Lloyd who would lead the assault. See McLynn, 90-98.

¹² For the plan's evolution into CANNIBAL, the "deformed offspring" of ANAKIM, see Raymond Callahan, *Burma 1942-1945* (London: Davis-Poynter, 1978), p. 59.

¹³ McLynn, 98-99.

¹⁴ T.R. Moreman, *The Jungle, The Japanese and the British Commonwealth Armies at War 1941-1945: Fighting Methods, Doctrine and Training for Jungle Warfare* (New York: Routledge, 2013), p. 65, first published 2005.

¹⁵ Allen, *Burma*, 95.

¹⁶ For order of battle to subordinate battalions, see Alan Jeffreys, *The British Army in the Far East 1941-1945*, Battle Orders series number 13 (Oxford, Great Britain: Osprey Publishing, 2005), p. 41.

intermediate corps headquarters.¹⁷ The brigades varied in capacity, quality, experience, and integration, and faced several larger challenges. Units of the 14th Indian Division had served on the Northeast Frontier during 1942,¹⁸ and in Burma they had dispersed widely across the Arakan front and Bay of Bengal in defensive positions of battalions and companies.¹⁹ This orientation limited collective training above the battalion and the locations were ill-suited to learn jungle tactics. Several units were new to the division: two brigades arrived only in September, the 123rd and 47th, and later the 55th Indian Brigade joined from the Northwest Frontier. Finally, three loose battalions were incorporated into the 88th Indian Brigade.²⁰ Overall, the division's limited training, defensive garrison duties, and new personnel caused the unit to suffer from general limited readiness exacerbated by a "drop in effectiveness" prior to the offensive.²¹

Attempts to address some of the shortcomings displayed in 1942 varied across units and made limited progress in the 14th Indian Division.²² Higher directives could be vague or impractical, such as C-in-C Wavell's training directive in May 1942 that assessed the "root causes" for failures to be a lack of toughness, lack of discipline, lack of offensive spirit, and inappropriate equipment.²³ It included the brief, general remedies of training hard, an increased reluctance to surrender, a need for more initiative, and to reduce equipment loads.²⁴ In other cases, prescriptions would prove wrong, such as the conclusion that tanks could not be useful in the jungle.²⁵ This misperception would be reflected during the First Arakan Offensive against Japanese bunkers, before ultimately being proven false two years later at nearly the same locations. More frequently and more broadly, attempts to implement new ideas failed since "there was no consistent application of new tactics

¹⁷ McLynn, 99-100.

¹⁸ Jeffreys, *The British Army*, 18.

¹⁹ Moreman, *The Jungle*, 65.

²⁰ Moreman, *The Jungle*, 65-66. Starting force posture in Jeffreys, *The British Army*, 41.

²¹ Moreman, *The Jungle*, 65.

²² Several of these army changes will be addressed later and with greater detail when discussing overall British adaptation during 1942 and 1943. The elements discussed in this section are presented for their relevance regarding the First Arakan Offensive.

²³ Archibald Percival Wavell, *A Note on Training for Commanding Officers* (Simla: Government of India Press, May 1942), BL.

²⁴ Wavell, *A Note on Training*.

²⁵ *Army in India Training Memorandum, No. 18 War Series December 1942* (Simla: Government of India Press, 1942), p. 1.

or processes.”²⁶ Ideas were developed and codified in pamphlets or memoranda but “did not immediately translate into dramatically improved combat effectiveness” because they required commanders and units to train forces based on the updated ideas when they were already occupied conducting other tasks.²⁷ Several ideas were promulgated across the Indian Army at different locations and echelons but failed to take root before the First Arakan Offensive. In early 1942, a revised *Military Training Pamphlet No. 9*, now expanded to 27 pages, recommended increased initiative, patrolling, and an active defence to protect vulnerable flanks against Japanese attacks. However, the new *MTP9* offered little specific guidance on how to train or execute these tactics.²⁸ In February 1942, *Army in India Training Memorandum 14* first mentioned jungle warfare and delivered a brief (two-page) prescription about expecting IJA flank attacks and quickly counterattacking, but the document lacked specific guidance and was not accompanied by any formal requirement to implement the changes.²⁹ *AITM15* expanded the prescriptions about jungle fighting with some lessons from Malaya that argued the core elements of jungle warfare against the IJA presented nothing radical or new and required only basic improvements in patrols, information sharing, and physical fitness, concluding that “many of our mistakes were due to our neglecting the original principles of war.”³⁰ The most significant new ideas may have been in *AITM17* with the introduction of infiltration tactics and a need to increase the larger organization’s cycle of operations, but its publication in September 1942 was too late for the start of the Arakan offensive.³¹ Thus, even the minor army lessons beginning to emerge in 1942 had limited impact on units preparing to fight the Japanese in western Burma.³² A piecemeal, uncoordinated process for implementing new ideas delivered

²⁶ Daniel P. Marston, *Phoenix from the Ashes: The Indian Army in the Burma Campaign* (Westport, Connecticut: Praeger Publishers, 2003), p. 79.

²⁷ Moreman, *The Jungle*, 58.

²⁸ *Military Training Pamphlet No. 9 (India) Notes on Forest Warfare*, Second Edition (Delhi: General Staff, India, January 1942).

²⁹ *Army in India Training Memorandum, No. 14 War Series January–February 1942*. (Simla: Government of India Press, 1942), pp. 14-15.

³⁰ *Army in India Training Memorandum, No. 15 War Series March – April 1942* (Simla: Government of India Press, 1942), p. 2. The section on lessons and recommendations on pages 2-5.

³¹ *Army in India Training Memorandum, No. 17 War Series September 1942* (Simla: Government of India Press, 1942), p. 15

³² Additionally, official documents tended to reflect the army’s orientation toward fighting the Germans and delivered more advice from experience in North Africa.

to units vague or impractical guidance when they were already engaged in other tasks, worsened by unclear prioritization. Furthermore, the army's basic training and reinforcement procedures remained relatively unchanged, so new ideas were not arriving to the 14th Indian Division. Across India Command there was "no consistent application of new tactics or procedures."³³

More specifically, 14th Indian Division made "limited progress in improving basic and jungle training" due to its force distribution, limited time, and army uncertainty about the appropriate lessons or how to change.³⁴ In August 1942 the division created its own jungle warfare training centre in India but "the tactics devised were still not adequate" and the decentralized system of training was poor preparation for the upcoming fight.³⁵ The Jungle Warfare School at Comilla addressed six core issues: Japanese outflanking and hook movements; holding ground when outflanked in order to maintain initiative; minor tactics (particularly ambushes); fitness; health discipline; and "dispelling the myth of the impenetrable jungle."³⁶ At the school, a platoon would deliver demonstrations as well as guidance to officers, non-commissioned officers, and complete platoons, with the aim of creating instructors for future training.³⁷ Courses, consisting primarily of brigade officers, completed seven iterations from August to December although the total personnel trained is unclear. In other instances, some battalions received a small number of lectures on Japanese tactics, to include brief demonstrations, and then a few days of practical application to test the new techniques. However, with such limited information and efforts it failed to produce significant change.³⁸ Furthermore, even if superior ideas and techniques were available, "there had simply not been enough time to thoroughly drill the necessary techniques into the men and officers."³⁹ Therefore, while the 14th Indian Division made some preparations by emphasizing core combat skills and small unit engagements in the jungle against new Japanese tactics, the training only superficially addressed

³³ Marston, *Phoenix*, 79.

³⁴ Moreman, *The Jungle*, 60.

³⁵ Marston, *Phoenix*, 87.

³⁶ Jeffreys, *The British Army*, 39.

³⁷ War Diary of the 2nd Bn The Duke of Wellington Regiment July 1942, WO 172/858 and Brig. A.D. Firth, 'Memoir' (Unpublished TS Memoir, nd), IWM, cited in Moreman, *The Jungle*, 65, footnote 82.

³⁸ Marston, *Phoenix*, 87.

³⁹ Marston, *Phoenix*, 88.

challenges already displayed by Japanese attackers in the jungle. However, it did not predict the bunker system to be faced next. The significance of this new challenge would emerge as the operation unfolded.

Down the Peninsula: Tactical Stagnation and Persistent Defeat

The operation began 21 September as 14th Indian Division moved forces forward in preparation of the main assault in December.⁴⁰ The early stages saw two brigades push southward through the hills toward Japanese positions at Maungdaw and Buthidaung where a Japanese battalion (II/213) had positioned itself fifty miles forward from the main force and straddling the Mayu Range.⁴¹ Now with two Indian brigades close to the IJA positions, a reserve brigade at Chittagong, and an additional brigade for a final assault,⁴² the IJA withdrew its forward battalion and moved down the peninsula to Donbaik near the southern tip.⁴³ Donbaik was highly defensible, and had been prepared with fortifications and bunkers. Other IJA forces were deployed eastward across the small river at Rathedaung. At these locations, attacking forces would first experience the challenges of fighting against IJA bunker systems. In general, these systems connected multiple pill-boxes constructed of thick logs and soil.⁴⁴ Dug into the ground and with thick overhead protection, the bunkers' physical strength offered protection against artillery and some aerial bombs. Importantly, the structure could withstand supporting firepower from nearby IJA units which delivered protection for the 5–25 personnel inside the fortification in case they needed supporting firepower if attackers threatened to breach the system. Tunnels and trenches enabled IJA movement, and the overall system possessed camouflage and natural cover to exploit advantages for tactical defence.

⁴⁰ Wavell to War Office, 17 December, p. 1, in IOR/L/WS/1/1323, Burma Assam Operations, Fortnightly Reports, BL. For an order of battle for the 14th Indian Division down to regiments and some companies, see Kirby, *India's Most Dangerous Hour*, 480.

⁴¹ 123rd Brigade (Hammond) approached Rathedaung along the east of the Mayu River, while 47th Brigade (Baker) moved to Foul Point with two battalions west of the Mayu Range and one east. Allen, *Burma*, 96–97.

⁴² The 55th Indian Brigade was the operational reserve with 6th British Brigade which was expected to complete the operation with a landing on Akyab Island. Allen, *Burma*, 97.

⁴³ Wavell to War Office, 31 December, 1, in IOR/L/WS/1/1323, Burma Assam Operations.

⁴⁴ General description of bunkers from Tim Moreman, “‘Debunking the Bunker’: From Donbaik to Razabil, January 1943–March 1944,” in Alan Jeffreys, ed., *The Indian Army, 1937–1949: Experience and Development* (Surrey, England: Ashgate Publishing Limited, 2012), p. 111.

The “real strength” of this system “lay in the sum of its parts” organized as an interconnected network of supported positions.⁴⁵ This included weapons pits, strongpoints, and pillboxes prepared in depth and for intersecting fields of fire that could cause disproportionate casualties against any attackers caught in the overlapping fire.⁴⁶ This ability to hold positions and combine firepower could enable a relatively small number of soldiers to achieve “surprise in the defence” and repulse larger units.⁴⁷ The bunkers also possessed effective protection against attacking firepower, allowing defenders to survive, remain concealed, and to respond. The bunkers would prove “quite impervious to bombardment by field-guns and even the direct hit of a medium bomb rarely penetrated.”⁴⁸ One unit would report that a pillbox could withstand “three direct hits from a [3.7-inch howitzer] at point-blank range,” and that this ability delivered valuable protection for the defensive locations.⁴⁹ As a result, Japanese could “take accurate and heavy shelling without showing any signs of movement,” withstanding attacks as well as maintaining concealment of their automatic weapons and positions.⁵⁰ With this ability to withstand indirect fire, if attackers penetrated to the bunkers then defenders could mass close-range artillery, mortars, and machine-guns to deliver disproportional casualties against the exposed attackers.⁵¹

At Donbaik and Rathedaung, IJA defenders had established these defensive bunker systems and the subsequent fighting produced “a classic example of Japanese defensive tactics.”⁵² One IJA regiment repulsed “attack after attack by massed battalions of 14th Indian Division” for fifty days.⁵³ Facing IJA bunkers for the first time, attacking troops were channelled into mutually-supported fields of fire by the well-prepared and well-sited defensive positions.⁵⁴ Overall, the skill and tenacity of Japanese defenders “came as an unpleasant surprise” to Indian Army

⁴⁵ Moreman, “Debunking,” 111.

⁴⁶ *Periodical Notes on the Japanese Army No. 7: Japanese Infantry Defence 1945* (London: The War Office, April 1945), 14, BL.

⁴⁷ *Periodical Notes on the Japanese Army No. 7*, 16.

⁴⁸ Slim, 152; Allen, *Burma*, 98.

⁴⁹ *Periodical Notes on the Japanese Army No. 7*, 14-16.

⁵⁰ WO 172/1951, 14 Indian Division: G.S. 01 January 1943–30 April 1943, report no. 125/10/I, 16 January 1943, TNA.

⁵¹ Slim, 153. See also *Periodical Notes on the Japanese Army No. 7*, 14.

⁵² *Periodical Notes on the Japanese Army No. 7*, 14

⁵³ Allen, *Burma*, 98.

⁵⁴ Slim, 152.

attackers, as 14th Indian Division repeatedly stalled against the fortifications using massed infantry across a narrow front.⁵⁵ Once fighting began, the combination of sturdy bunkers, skilled defenders, and attackers using uncoordinated frontal assaults caused the 14th Indian Division to fail consistently throughout the next three months and to suffer significant casualties.⁵⁶ The division struggled from the very start,⁵⁷ and by 10 January the two leading brigades had been “brought to a standstill” on both sides of the Mayu River at Donbaik and Rathedaung.⁵⁸ Assaulting Donbaik in early January, forces “were thrown back with heavy losses, and the same pattern continued for four successive days.”⁵⁹ On 3 January, initial elements of the 47th Indian Brigade “experienced great difficulty during preliminary moves through thick darkness and jungle.”⁶⁰ On 8–9 January, the brigade lost 100 casualties in a battalion assault as “progress proved impossible across the 600 yards of flat ground.”⁶¹ The brigade attacked again ten days later with “considerable numerical superiority” but suffered heavy losses in the “conventional set-piece frontal attack” as the leading company “suffered a number of casualties” against the entrenched defenders.⁶² By 21 February the brigade headquarters was suffering direct attacks from the IJA and the brigade withdrew.⁶³

Across the river at Rathedaung, attackers failed to locate many IJA positions and conducted isolated actions which proved too weak to dislodge the defenders.⁶⁴ On 2 February, attackers in 123rd Indian Brigade faced hand-to-hand fighting, and IJA counterattacks caused “heavy casualties” as the brigade failed to hold ground.⁶⁵ “Heavy fighting” continued as the brigade advanced on 2–3 February and was “held up by enemy resistance” even with an artillery concentration that “did not reduce the

⁵⁵ Moreman, *The Jungle*, 67.

⁵⁶ McLynn, 101.

⁵⁷ WO 172/1951, 14th Indian Division Daily Intelligence Summary, No. 66, Period 0900 HRS. 8 JAN–0900 HRS 9 JAN. 43, p. 1, point 2: “Our forces meet strong resistance at Donbaik.”

⁵⁸ Kirby, *India’s Most Dangerous Hour*, 264; Moreman, *The Jungle*, 67.

⁵⁹ McLynn, 101.

⁶⁰ WO 172/2087, 47 Indian Infantry Brigade War Diary for January 1943, 03 January, in 47 Indian Infantry Brigade HQ, 01 January 1943–30 April 1943, TNA.

⁶¹ Moreman, “Debunking,” 112.

⁶² Moreman, *The Jungle*, 68; WO 172/2087, 47 Indian Infantry Brigade War Diary, 18 January.

⁶³ WO 172/2087, 47 Indian Infantry Brigade War Diary, 21 January.

⁶⁴ Wavell to War Office, 31 Jan, p. 1, in IOR/L/WS/1/1323, Burma Assam Operations.

⁶⁵ WO 172/2126, February 1943 War Diary, 123rd Indian Infantry Brigade HQ, 1943 January–March, September–December, 02 February, TNA.

enemy's resistance.”⁶⁶ Then came a standard IJA counterattack, delivering more harm to the weakened forces. The attacks by the 123rd Indian Brigade had failed and the unit was withdrawn.⁶⁷

Attacks by 55th Indian Brigade in early February also failed to clear IJA defenders and were driven back.⁶⁸ The brigade attacked using two battalions “on a narrow front” accompanied by artillery and eight tanks from XV Corps but Japanese defenders quickly destroyed the forces.⁶⁹ The tanks proved “ineffective.”⁷⁰ They were “knocked out almost at once” and made “no impression at all.”⁷¹ Attacking infantry stalled as an entire battalion could be halted by a single defensive position. IJA firepower repulsed other attempts and attackers withdrew after facing “a strenuous fight,” with supporting artillery failing to reduce IJA resistance.⁷² On 18 February the 55th Indian Brigade again attacked Donbaik with four battalions in a frontal assault that penetrated to the bunkers but, ultimately, failed against close-range mortars and artillery.⁷³ One battalion exited the tree line and attacked “across an open field” with no preparatory patrolling before assaulting “well-entrenched enemy positions in a frontal movement” without flanking support.⁷⁴ Other units made “yet again a stereotyped direct frontal assault on a narrow front, behind a timed barraged fired by field artillery.”⁷⁵ The result: “it was cut to pieces.”⁷⁶ Throughout the brigade, units conducted similar frontal assaults in the open and the subsequent losses caused the brigade to withdraw after two weeks.

By late February, the 14th Indian Division had grown to nine brigades after adding 71st Indian and 6th British brigades, tasked to assault Donbaik alongside the

⁶⁶ WO 172/2126, 14 Indian Division Daily Intelligence Summary No. 90 – Period 0900 Hours 02 February to 0900 03 February, in 123rd Indian Infantry Brigade HQ, 1943 January–March, September–December, 02 February, TNA.

⁶⁷ Moreman, *The Jungle*, 68.

⁶⁸ WO 172/2097, February 1943 War Diary, 55 Indian Infantry Brigade HQ, 1943 February–March, 02 February, TNA.

⁶⁹ Moreman, “Debunking,” 112, 113; Moreman, *The Jungle*, 68.

⁷⁰ Wavell to War Office 15 Feb., p. 1, in IOR/L/WS/1/1323, Burma Assam Operations.

⁷¹ Slim 152; McLynn, 101.

⁷² WO 172/1951, 14th Indian Division Daily Intelligence Summary, No. 90, Period 0900 HRS. 2 FEB to 0900 HRS 3 FEB 1943, p. 1, point 2(a), TNA.

⁷³ Moreman, *The Jungle*, 69. See also WO 172/2097, 55 Indian Infantry Brigade HQ, 1943 February–March, 18–19 February, TNA.

⁷⁴ Marston, *Phoenix*, 89.

⁷⁵ Moreman, “Debunking,” 115.

⁷⁶ Marston, *Phoenix*, 89.

47th Indian Brigade.⁷⁷ The attackers continued struggling to reach or to infiltrate the bunkers.⁷⁸ The 6th British Brigade led the final attack on Donbaik in mid-March using a frontal assault with six infantry battalions supported by two field regiments, but made little progress and suffered heavy casualties during IJA counterattacks supported with defensive firepower.⁷⁹ The final attack, again, was “made piecemeal on orthodox lines and completely failed to deal with Japanese defenses.”⁸⁰ Similar to the preceding months, this “final British attack on Donbaik ended in abject failure.”⁸¹ At Rathedaung, individual units continued to be surrounded and forced to withdraw.⁸² By late march the 14th Indian Division’s offensive into Arakan ended.

Then the Japanese counterattacked. The IJA inflicted severe losses against the British forces “widely dispersed and vulnerable” which continued to employ the same ineffective defences from the invasion.⁸³ The continued, failed attacks at Donbaik and Rathedaung had provided time for the IJA Fifteenth Army’s 55th Division to arrive in Arakan after moving two regiments over 600 miles.⁸⁴ By early March the Japanese had received sufficient reinforcements to counterattack the dispersed British units and began a larger counteroffensive. Shifting from defence to the attack, IJA forces again employed “a combination of deep and wide outflanking manoeuvres and infiltration tactics as used a year earlier.”⁸⁵ Against the unchanged IJA tactics, British forces still used linear defences and had “no answer.”⁸⁶ Static, standard defensive tactics allowed Japanese attackers to infiltrate between defensive positions, block movements, and attack from unexpected directions similar to the year before.⁸⁷ Japanese companies “ran rings around Indian battalions, battalions outmanoeuvred brigades and regiments defeated several times their own number in

⁷⁷ The 71st Indian Brigade “was woefully deficient in jungle training” while the 2nd British Brigade “had only received some rudimentary instruction at Thana, near Chittagong in jungle methods sandwiched between instruction for combined operations.” Moreman, *The Jungle*, 69.

⁷⁸ Julian Thompson, *The Imperial War Museum Book of the War in Burma 1942–45*. (London: Sidgwick & Jackson, 2002), pp. 51-55.

⁷⁹ Moreman, *The Jungle*, 72.

⁸⁰ Wavell to War Office, 22 March 1943, 1, IOR/L/WS/1/1323, Burma Assam Operations.

⁸¹ Moreman, “Debunking,” 117.

⁸² WO 172/1951, 14th Indian Division Daily Intelligence Summary, No. 125, Period 9 March Midnight to 9/10 March 1943, p. 1, point 2(b), TNA.

⁸³ Moreman, *The Jungle*, 70-71.

⁸⁴ Allen, *Burma*, 100.

⁸⁵ Moreman, *The Jungle*, 71.

⁸⁶ Marston, *Phoenix*, 90; Moreman, *The Jungle*, 71.

⁸⁷ Moreman, *The Jungle*, 72.

strength using the jungle either to outflank or to infiltrate British positions.”⁸⁸ Within a month, the Japanese encircled and attacked forces near Donbaik and Rathedaung, cleared the east and west flanks of the Mayu Range, emptied the valley, and “pushed back the numerically superior” troops in “demoralizing fashion.”⁸⁹ Finally, the Japanese halted their offensive in April with British forces returned to their original position.

In a “complete failure” the British suffered 916 killed, 2,889 wounded, 1,252 missing.⁹⁰ Irwin fired 14th Indian Division commander Lloyd⁹¹ and then was himself fired as Eastern Army commander.⁹² In June the 14th Indian Division was redesignated as a training division, withdrawn, and moved to Chhindwara. The unit would not fight again during the war.⁹³ The Arakan offensive delivered the exact opposite of the intended effect on morale and world opinion, as the former plummeted and the later remained grim. The IJA’s bunker system and defensive techniques used at Donbaik became an exemplar of effective infantry defence.⁹⁴

Measuring Effectiveness and Outcome

The First Arakan Offensive provides a clear example of operational failure. First, British forces failed to achieve the assigned objective as they could not clear IJA defenders to seize Akyab Island, a relatively limited goal. Second, the operation unfolded much more slowly than planned (or may seem reasonable) as forces stalled, repeatedly, at Donbaik and Rathedaung. When battling IJA defenders and then pursued by IJA counter-attackers, units from more than nine brigades expended high amounts of resources and lives against an outnumbered adversary that consistently outperformed them. Furthermore, the mounting casualties required units to replace personnel with less-experienced and under-trained reinforcements which

⁸⁸ Moreman, *The Jungle*, 71.

⁸⁹ Jeffreys, *The British Army*, 42.

⁹⁰ Moreman, *The Jungle*, 76.

⁹¹ Irwin fired Lloyd on 29 March and replaced him with Major General C.E.N. Lomax. See McLynn, 103; Allen, *Burma*, 107.

⁹² Irwin was replaced by General George Giffard. See McLynn, 103, and Slim, 163. PM Churchill also removed Wavell in May by promoting him to viceroy of India and replaced him with Claude Auchinleck. See McLynn, 108.

⁹³ Jeffreys, *The British Army*, 42.

⁹⁴ *Periodical Notes on the Japanese Army No. 7*, 15-16.

exacerbated costs and proved “one of the main reasons for the breakdown of fighting efficiency” as the operation unfolded.⁹⁵

The 14th Indian Division’s performance may be considered tactical stagnation—the opposite of adaptation. During later reflection upon the division’s failures, it was concluded that “not enough attention had been paid to Japanese tactics and the lessons to be learnt from them.”⁹⁶ As one author later summarized:

We made frontal assaults on prepared positions; when the troops were exhausted the Japanese counter-attacked in the familiar form by a hook behind our positions and forced us to retire. We ended where we started, but after heavy losses in men and vehicles. As an offensive, the operation had failed.⁹⁷

The division employed forces and resources in an unchanged manner, repeatedly pushing frontal infantry assaults across narrow fronts to challenge the bunker complexes and IJA defences. Attempts to incorporate additional firepower with tanks or artillery—such as the failed infantry and armour attacks by 55th Indian Brigade in early February—entailed no significant changes to procedures or techniques.⁹⁸ The result had limited impact on defending forces and the brigade reverted to infantry-led frontal assaults. Artillery, as displayed in late February after several months of fighting, continued to employ a pre-timed initial barrage that failed to damage the bunkers or to provide sufficient cover for attacking units to close with the fortifications.⁹⁹ Infantry rarely attempted to manoeuvre around or above the defensive positions, seen repeatedly in the conventional attacks and subsequent failures by 47th brigade at Donbaik in January, 123rd brigade’s failed assaults at Rathedaung, and the 55th brigades’ struggles at Donbaik. When faced with these repeated, similar setbacks, the 14th Indian Division’s only change to battlefield tactics was to add more forces which produced unchanged results. Then, when pushed on the defensive in late February and March, British forces again

⁹⁵ IOR/L/WS/1/1371, Report of the Infantry Committee 1943, War Staff India Office 1-14th June 1943, p. 7, BL.

⁹⁶ Philip Mason, *A Matter of Honour: An Account of the Indian Army, Its Officers and Men* (London: Papermac, 1986), p. 497, originally published 1974.

⁹⁷ Mason, 497.

⁹⁸ *AITM 18*, 1.

⁹⁹ WO 172/2097, February 1943 War Diary, 55 Indian Infantry Brigade; Moreman, “Debunking,” 115.

suffered from the same deficiencies displayed in 1942 during the invasion. This scenario indicates how any efforts to change during 1942 by 14th Indian Division or the larger army had little impact on changing performance in Arakan.

British operational effectiveness was low. Most forces struggled to function as a cohesive unit, and many lacked cooperation as a battalion.¹⁰⁰ When attempting to incorporate tanks, such as during the 55th Brigade's early-1943 assault on Donbaik, forces displayed an inability for armour and infantry to cooperate much less coordinate throughout the battle. Additionally, "no attempt" was made to train infantry and armour to coordinate together.¹⁰¹ Repeated frontal assaults against outnumbered IJA units consistently showed challenges for executing planned attacks against unchanged defences. Once facing the IJA counteroffensive, British units struggled with basic small-unit engagements in static defence and orderly retreat. Forces appeared to maintain core combat skills in unit cohesion, disciplined leadership, technical skills and weapons handling, but events in the First Arakan Offensive failed to suggest an ability to execute the complex tactics indicative of intermediate effectiveness. Thus, they are rated as low.

Figure 4.1: Measuring Adaptation, Effectiveness, Outcome: First Arakan Offensive

	WARTIME CHALLENGE	TACTICAL ADAPTATION	OPERATIONAL EFFECTIVENESS	IMPACT ON OUTCOME	OPERATIONAL OUTCOME
IJA	NONE	NONE	INTERMEDIATE	ENABLE SUCCESS	SUCCESS
GB	IJA BUNKERS	NONE	LOW	EXACERBATE SETBACKS	FAILURE
	COUNTERATTACK INFILTRATION	NONE			

Findings and Relevance

Case Study Assessment: Insufficient British tactical adaptation before and during the First Arakan Offensive exacerbated setbacks and contributed to operational failure.

For this case study, hypothesis 1 (H1), central vertical information mechanism over decentralized horizontal, is supported. Prior to the First Arakan

¹⁰⁰ IOR/L/WS/1/1371, Report of the Infantry Committee, 12.

¹⁰¹ Moreman, *The Jungle*, 68.

Offensive, new ideas began to emerge in increased patrolling, more aggressive small-unit tactics, and infiltrating behind IJA defences, but the lack of a formal army training centre or a clear prioritization of what ideas required attention, at what time, and in what order, undermined their larger adoption. The decentralized and horizontal nature of sharing information produced disparate notions with differing relevance across units and centres with unclear guidance. One result was that units, with little time to decide or to implement changes, took various ad-hoc actions and produced guidance that was frequently unclear or contradictory. This decentralized process contributed to the resulting low effectiveness. The First Arakan Offensive supports H1 because the decentralized mechanisms failed to incorporate battlefield lessons for wartime adaptation. The shortcomings in readiness and effectiveness appear directly related to the lack of a central mechanism to incorporate lessons in a formal and structured manner.

Hypothesis 2 (H2), anticipation over improvisation, is disputed. The First Arakan Offensive indicates the costs of failure to improvise, suggesting that improvisation may be more applicable to reducing immediate setbacks than attempting to anticipate future challenges. Once encountering the IJA bunker defences and initial setbacks in January 1943 with the 47th Indian Brigade then 14th Indian Division consistently failed to create any new solution as it continued to deploy the 123rd Indian Brigade, the 55th Indian Brigade, the 88th Indian Brigade, the 71st Indian Brigade, and the 6th British Brigade. Over several months these brigades consistently employed simple frontal assaults that failed to close upon the bunkers, much less breach them, seize them, or suppress the Japanese counter-fire. It seems unreasonable to expect the Indian Army to possess sufficient knowledge beforehand about the bunker systems to anticipate or to train fully for their destruction, but once the battles unfolded then the repeated application of tactics unsuited for the tasks at hand delivered crippling setbacks. Anticipation still may be more valuable in preventing the future repetition of mistakes, but the 14th Indian Division's struggles against IJA counterattacks in March 1943—which used the same techniques as the year before—displayed a failure to conduct anticipatory adaptation as well. Thus, the failed attempts to anticipate future solutions and the apparent necessity to improvise ones combine to dispute H2.

Hypothesis 3 (H3), skill over technology, is affirmed. Constructed largely of wood and dirt and supported by small arms, the bunker systems delivered an effective defence against an attacking force that was better equipped and much larger. By cooperatively using basic resources and foresight against unchanging tactics, an expanded IJA regiment repeatedly repulsed multiple brigades armed with more artillery, more armour, and more-advanced equipment. While the bunkers would later be defeated through advanced training, improved combined-arms coordination, and new assault tactics, during early 1943 the skill of a few IJA defenders successfully and effectively repulsed a force superior in numbers, equipment, and firepower. This outcome indicates the power of skilfully employing existing technology and limited resources over incompetently using greater resources and more advanced technology. Thus, IJA bunker defence affirms the importance of skill over technology.

Figure 4.2: Findings for the First Arakan Offensive

Measurement Scale: (+) Affirm \Leftarrow Support \Leftarrow Neutral \Rightarrow Dispute \Rightarrow Contradict (-)

	INVASION 1942	FIRST ARAKAN 1942-43	SECOND ARAKAN 1944	FIRST LRPG 1943	SECOND LRPG 1944	IMPHAL 1944	BREAKOUT 1945
H1: CENTRAL	NEUTRAL	SUPPORT					
H2: ANTICIPATE	DISPUTE	DISPUTE					
H3: SKILL	AFFIRM	AFFIRM					

Chapter Five

Adaptation and Success:

The Second Arakan Encounter, 1943–44

Following Japan's successful defence against the British Arakan offensive, by early 1943 the IJA controlled a defensive perimeter across Burma and both sides paused. As Japan lacked the desire or capability to push further north, British forces regrouped in northeast India. During this period, the Indian Army developed new tactics that would improve battlefield performance and enable a very different outcome in the Arakan by early 1944. The IJA, in contrast, remained unchanged. This chapter posits that British adaptation and Japanese consistency enabled British forces to counter the IJA tactics employed so successfully in the past, and to achieve operational success. Thus, this case indicates how wartime change may contribute significantly and directly to operational success by raising battlefield effectiveness. Therefore, the Second Arakan Encounter suggests that if forces possess the capacity to learn against an adversary presenting clear and surmountable tactical challenges then wartime adaptation may deliver critical advantages to improve performance and to enable operational success.

BRITISH STUDY AND CHANGE

Japanese attackers had outfought British forces but these techniques failed to present any fundamental or revolutionary change in warfare. And since the tactics had been clearly revealed they were now available for thorough examination.¹ During 1943 and early 1944, British forces used anticipation and a central, formal mechanism for information management to consolidate, evaluate, and disseminate new ideas. Then they used revised training to build skills in the new tactics for in the jungle and against the bunkers. The result was a British force whose units, up to and including divisions, could fight well in the jungle against IJA encirclement, hooks, and infiltration, and increased effectiveness against the IJA defensive bunker systems.

¹ The methods "were like a weapon lying in the street, a weapon available for either side to pick up and use." H.P. Willmott, *Empires in the Balance: Japanese and Allied Pacific Strategies* (Annapolis, Maryland: Naval Institute Press, 1982), p. 432.

Problems and Needs

The retreat from Burma and failed First Arakan Offensive revealed shortcomings that caused rigorous internal assessment and resulted in significant change. Initially, the larger Indian Army continued to suffer from low readiness due to the lingering effects of force expansion.² Also, training “with little centralised control” lacked coordination or much practical application.³ Fighting in 1942 had enabled the army to highlight dangers of IJA speed, mobility, infiltration, and encirclement, but reform remained unattainable without time for larger assessment and direction. In response to this combination of setbacks, shortcomings, and previously ineffective techniques, the Indian Army reorganized in 1943 to implement new tactics using revised training and to increase resources in preparation for the invasion of Burma.

Most immediately the army needed to address jungle fighting and to develop responses to IJA attacks. In both Malaya and Burma, defenders had “no effective answer” for IJA infiltration, encirclement, and roadblocks which repeatedly proved devastating.⁴ The lack of basic skills across British forces was exacerbated by insufficient jungle training, causing units to be unprepared in both general tactics and specialized skills.⁵ Tactically, forces “had been completely outclassed” by Japanese methods that proved highly effective while also relatively simple.⁶ The IJA had been “demonstrably better skilled at living and moving in the jungle,”⁷ enabling them repeatedly to hook and hold British forces at their front while sending a quick mobile force in a wide turning movement around the flank, through the jungle, to block lines of communication.⁸ British troops lacked such an ability to move

² From 1939 to 1942 the Indian Army expanded from 183,000 to over 1,000,000 men, and the “dilution in quality was severe.” Raymond Callahan, *Burma 1942–1945* (London: Davis-Poynter, 1978), p. 23, 97.

³ Alan Jeffreys, *The British Army in the Far East 1941–1945* (Oxford, Great Britain: Osprey Publishing, 2005), pp. 14-15.

⁴ T.R. Moreman, *The Jungle, The Japanese and the British Commonwealth Armies at War 1941–1945: Fighting Methods, Doctrine and Training for Jungle Warfare* (New York: Routledge, 2013), p. 53, first published 2005.

⁵ Moreman, *The Jungle*, 53.

⁶ William J. Slim, *Defeat into Victory: Battling Japan in Burma and India, 1942–1945* (New York: Cooper Square Press, 2000), p. 119, updated with new introduction, unabridged republication of original edition, *Defeat Into Victory*, originally published in 1956.

⁷ Moreman, *The Jungle*, 76.

⁸ Slim, 119.

through the jungle, to move with comparable speed, to prevent such outflanking movements, or to breach the roadblocks.⁹

IJA defensive systems also proved a significant challenge. The First Arakan Offensive displayed IJA forces as “formidable opponents on the defensive whose skill at constructing elaborate and strong fortifications was unparalleled.”¹⁰ In addition, the British technique of attacking bunkers across a narrow front had “proved disastrous.”¹¹ Unprepared for the bunkers and unable to coordinate firepower to breach them, forces had displayed insufficient skills in core capabilities to overcome the numerous challenges they faced. When attacking IJA defences “the same mistakes had been made again and again,” using established techniques that consistently proved ineffective.¹² Overall the IJA defenders proved “hard to see and harder still to kill” when prepared and concealed in the protective bunker systems.¹³

Assessment and Change

In mid-1943 the Indian Army conducted internal assessments that changed its organization and revised practices to alter readiness and capabilities, establishing a foundation that would endure for the war’s duration. First, Commander-in-Chief Wavell formed the Infantry Committee in May 1943 during his final days in post, and directed the group to examine past infantry performance and recommend corrective action.¹⁴ Assembled in June, the committee issued an influential “detailed analysis of causes of failure” from the invasion through the First Arakan Offensive.¹⁵ It emphasized the failed preparation of infantry for jungle warfare, an organizational mistake compounded by low readiness and general unpreparedness. The overall quality of personnel in the infantry was deemed low compared with that

⁹ Slim, 119.

¹⁰ Moreman, *The Jungle*, 76.

¹¹ Jeffreys, *The British Army*, 88-89; Slim, 151-154.

¹² Slim, 160; Moreman, *The Jungle*, 64-69.

¹³ Max Hastings, *Retribution: The Battle for Japan, 1944–45* (New York: Random House, 2007), p. 77, originally published in UK as *Nemesis: The Battle for Japan, 1944–45* (Harper Press, 2007).

¹⁴ In July 1943, the Indian Army changed commanders from Wavell to Auchinleck. Wavell initiated the Infantry Committee and tasked organizational changes which then continued under Auchinleck. Telegram ordering creation of this committee was sent from Washington DC on 16 May from Wavell to his deputy, General Sir Alan Hartley. Callahan, 97-98.

¹⁵ IOR/L/WS/1371, Report of the Infantry Committee, War Staff India Office, June 1943, pp. 1-2, BL.

of other branches, and problems were exacerbated by insufficient training, especially the absence of collective training.¹⁶ Training centres could not handle the high volume of incoming personnel—which now arrived possessing a lower level of basic skills—and therefore delivered troops to their units unprepared to fight. Once combat began the units received only similarly under-trained replacements.¹⁷ The committee recommended to senior leadership that the infantry receive better officers, NCOs, and recruits; that forces receive improved training both individually and collectively; that the army reduce the shifting of experienced troops into new units; and the establishment of new training divisions. For these forces to be effective in Asia, doctrine had to change and be controlled by a central authority:

One final aspect affecting basic training needs stressing. This is the overriding need for a simple and recognized jungle warfare doctrine which must include cut and dried battle drills on which the training of recruits can be based... at present many doctrines exist, all of them fundamentally different and all of them being put into effect in different parts of India. They would stress the urgent need for G.H.Q. to control the Pandits, who produce such doctrines, so that the training of the recruit and the trained soldier can follow accepted doctrine.¹⁸

The committee's recommendations would be addressed by the Director of Infantry Reginald Savory, and this new office "marked an important turning point in fitting the Indian Army for war against Japan."¹⁹ Supported by new Commander-in-Chief Auchinleck,²⁰ Savory and his office were granted broad authority regarding training, resources, and organization. He would play "a critical role for the rest of the war" by

¹⁶ IOR/L/WS/1371, Report of the Infantry Committee, 1-2.

¹⁷ IOR/L/WS/1371, Report of the Infantry Committee, 2.

¹⁸ IOR/L/WS/1371, Report of the Infantry Committee, 8.

¹⁹ Moreman, *The Jungle*, 84. In June 1943 Wavell appointed Major-General Reginald Savory as Inspector of Infantry and the position changed a few months later to Director of Infantry. Before this appointment, Savory commanded the 23rd Indian Division in Assam. Callahan, 98.

²⁰ Wavell was replaced on 20 June 1943 by General Sir Claude Auchinleck, and command over Burma passed to the new South East Asia Command (SEAC). However, during the next four months, the Commander-in-Chief India "acted as a caretaker responsible for operations on the Indo-Burma front as well as organizing, equipping and training units destined for that theatre." Moreman, *The Jungle*, 84.

implementing, evaluating, and refining new and specialized training programs throughout the theatre, with the most important time being June–November 1943.²¹

Vitally, the army soon created training divisions to improve replacements' readiness, and also linked incoming personnel with frontline divisions.²² The two new training divisions were the 14th Indian Division from the First Arakan Offensive, now located in Chhindwara, and the 39th Indian Light Division (formerly the 1st Burma) from the retreat out of Burma, at Saharanpu.²³ Now recruits completed elementary-level training—also extended by a month—before the 14th and 39th divisions delivered two months of specialized jungle training using experienced officers and NCOs as instructors.²⁴ Soldiers next moved to reinforcement camps which also changed significantly from their initial status as holding locations, manned by staff largely “unwanted by units or who preferred the rear to the front.”²⁵ Now each camp was linked specifically with a forward division that would rotate veteran personnel to run the camps and to train the replacements, providing greater discipline and realism. Additionally, as forward units evaluated new tactics and doctrine, they could send back assessments so that incoming soldiers received the same updates as those currently fighting—and with time to prepare.²⁶ This process delivered timely lessons which matched practices of the forward unit, and replacements began to identify as part of the division.²⁷

British forces now possessed a mechanism to address deficiencies as well as time to do so during the monsoon. To implement solutions, the army used four general processes that were related but can be considered individually. First, it brought new units. The 7th Indian Division trained individually and collectively on the Northwest Frontier and became one of the first formations to conduct jungle

²¹ Callahan, 98.

²² IOR/L/WS/1/1364, Formation of Training Divisions in India, 1943, BL.

²³ Callahan, 97; Jeffreys, *The British Army*, 18-19. For one day the 1st Burma Division first became the 38th Light Infantry Division and then changed to the 39th to distinguish it from the Chinese 38th Division already in theatre. The 39th Division included three infantry brigades, the 106th, 113th and 115th, with the latter formed by combining Gurkha battalions 14th, 29th, 38th, and 7/10th. Jeffreys, *The British Army*, 53.

²⁴ Slim, 191.

²⁵ Slim, 191.

²⁶ Messervy 5/15, Lessons From Operations, 10 September 1944, p. 1, in Messervy, 7 Indian Div. Operational notes Nos. 1-13, LHCMA.

²⁷ Slim, 191. This process was directed by Fourteenth Army.

training.²⁸ After the unit transferred to India's central provinces it joined a mobile jungle training team led by veterans of the Burma retreat in a programme emphasizing minor tactics, specialized jungle skills, and coordination with artillery, mortars, and machine guns.²⁹ The 20th Indian Division was created in March 1942 and "established and trained solely for the war in Burma."³⁰ In Ceylon since mid-1942, the division's commander distributed recent lessons from Burma and Malaya and incorporated them into training.³¹ Uniquely, the unit performed intensive training to the level of full divisional exercises. In general, it "had little to do other than train hard focusing on basic training and entirely on jungle fighting against the IJA."³² The 81st West African Division from southern Nigeria landed at Bombay and the unit began to train in jungle camps near Chas and Western Ghats.³³ Although specialized jungle training was limited since the terrain proved unsuitable, the division still benefitted from practicing small-unit skills in accordance with emerging lessons.³⁴ The 5th Indian Division arrived after fighting with distinction in North Africa against German and Italian forces, and began jungle training in Bihar Province with the assistance of a brigade of Arakan veterans.³⁵ The division moved again to Lohardya, Ranchi, to lighten its force by replacing motor transport with animals and acquiring smaller artillery, and to conduct two months of jungle training.³⁶ It also gained a brigade and regiment from Arakan, and the units conducted jungle warfare education as well as training with tanks.³⁷ Overall, the 5th Indian Division conducted a detailed training program on terrain, patrolling, weapons, fire control, and fieldcraft.

Second, British forces created and disseminated lessons for new tactics and fighting in the jungle. Two mechanisms proved most important: an updated edition

²⁸ Moreman, *The Jungle*, 89; Jeffreys, *The British Army*, 31.

²⁹ Jeffreys, *The British Army*, 31.

³⁰ Jeffreys, *The British Army*, 49.

³¹ Jeffreys, *The British Army*, 49.

³² Moreman, *The Jungle*, 89.

³³ Moreman, *The Jungle*, 89.

³⁴ Some officers had previously attended the West African jungle training school at Enugu. Moreman, *The Jungle*, 90; Jeffreys, *The British Army*, 56.

³⁵ The 123rd Indian Infantry Brigade from the 14th Indian Division, designated as a training unit. Moreman, *The Jungle*, 90.

³⁶ Jeffreys, *The British Army*, 28; Moreman, *The Jungle*, 91.

³⁷ The 27th Mountain Regiment and 123rd Indian Infantry Brigade. Jeffreys, *The British Army*, 30.

of *Military Training Pamphlet No. 9 (India): Jungle Warfare*, which offered a simplified, coherent doctrine to facilitate training,³⁸ and several *Army in India Training Memoranda* for quickly disseminating new thinking.³⁹ The 1940 *MTP9* contained only eleven pages of general guidelines,⁴⁰ and two expanded editions in 1943 (eventually to 73 pages) still delivered limited impact due to their late arrival, uneven use, and narrow scope.⁴¹ But then in September 1943 the fourth edition arrived, *The Jungle Book*, and with it “GHQ India finally produced a comprehensive jungle warfare doctrine with the publication of 80,000 copies.”⁴² Written specifically “to assist commanders in training their units to fight the Japanese in jungles,” the new manual combined the previous editions with lessons from the First Arakan Offensive.⁴³ *MTP9* proved the “most important addition by far” to the larger body of jungle warfare doctrinal literature, delivering lessons in topography and emphasizing offensive action through ambushes and patrols, even when in defensive operations.⁴⁴ *MTP9* described specific tactics for using various arms, and discussed their coordination using speed, assault parties, weapon skills, and seizing limited objectives.⁴⁵ Patrols were essential for offensive techniques which now prescribed encirclement and flanking rather than frontal assaults.⁴⁶ *MTP9* provided a single, authoritative doctrine “upon which other training could be based.”⁴⁷

Other lessons regarding minor tactics and specific challenges were assessed and disseminated primarily through *AITM* and supplemented by pamphlets.⁴⁸

³⁸ *Military Training Pamphlet No. 9 (India) The Jungle Book*, Fourth Edition (Delhi: General Staff, India, September 1943).

³⁹ The shift in emphasis to training for jungle fighting began, most substantially, with *Army in India Training Memorandum, No. 21 War Series June 1943* (Delhi: Manager of Publications, 1943). The *Army in India Training Memorandum (AITM)* series had been published by the Indian Army since May 1940 at a rate of approximately one directive every two months, but they received increased importance, relevance, and information after the failures of 1942 and early 1943.

⁴⁰ As discussed in Chapter 3. *Military Training Pamphlet No. 9 (India) Extensive Warfare: Notes on Forest Warfare* (Simla, India, 1940).

⁴¹ *Military Training Pamphlet No. 9 (India) Notes on Forest Warfare*, Second Edition (Delhi: General Staff, India, January 1942); *Military Training Pamphlet No. 9 (India) Jungle Warfare*, Third Edition (Delhi: Manager of Publications, August 1942).

⁴² Jeffreys, *The British Army*, 17.

⁴³ *MTP 9*, Fourth Edition, 1; Jeffreys, *The British Army*, 17.

⁴⁴ Moreman, *The Jungle*, 104-105.

⁴⁵ *MTP 9*, Fourth Edition.

⁴⁶ Jeffreys, *The British Army*, 61-62.

⁴⁷ Moreman, *The Jungle*, 107.

⁴⁸ For additional details on the shift in doctrine and training prescriptions in the *AITM*, see *Army in India Training Memorandum, No. 21 War Series June 1943* (Delhi: Manager of Publications, 1943); *Army in India Training Memorandum, No. 22 War Series August 1943* (Delhi:

Patrolling was emphasized, as well as techniques for reconnaissance, ambushes, attacks, or to enable larger assaults using encirclement and flanking, that required practice and refinement.⁴⁹ Patrols lasting ten days over seventy miles were not unknown for units as large as a company, with the larger size useful for defence if discovered.⁵⁰ Forces prepared for discovery by using consistent RV techniques and implementing instinctive immediate action battle drills, to practice pre-determined responses from the first moments of being ambushed or unexpectedly encountering an enemy at close range.⁵¹ The Indian Army training directorate distributed a handbook for battle drill instruction, with precise guidance for junior officers to implement across sections, platoons, and companies.⁵² An additional pamphlet discussed challenges specific to thick jungle, and these two directives assisted small-unit leaders to prepare and to perform in the jungle where minor tactics played an essential role as units often operated in smaller formations and with greater autonomy due to compartmentalizing terrain and the large size of the area.⁵³ Overall, corps and army leaders emphasized the need to fight without long defensive lines which meant that forces could expect to have IJA formations in their rear, to coordinate with mobile reserves, to use hooks to turn flanks, to seize the initiative, and that every type of unit had to be prepared to fight and patrol.⁵⁴

For the bunkers, the First Arakan Offensive delivered valuable experience for understanding bunker construction, characteristics, counterattacks, and fire procedures, which allowed for experimentation, demonstrations, and manuals to deliver new tactics. In mid-1943 the infantry schools studied and tested methods for attacking bunkers, hosting demonstrations and courses for officers as well as distributing pamphlets of general principles.⁵⁵ In some instances engineers constructed bunkers or roadblocks, accompanied by instructional demonstrations for attacking the position and discussions afterwards regarding experiences and

G.S. Publications, 1943); *Army in India Training Memorandum, No. 23 War Series December 1943* (Delhi: Manager of Publications, 1943).

⁴⁹ Jeffreys, *The British Army*, 60-62, see also *MTP9*, Fourth Edition, 17-18.

⁵⁰ John P. Cross, *Jungle Warfare: Experiences and Encounters* (London: Arms and Armour, Artillery House, 1989), p. 86.

⁵¹ Cross, 87, 208-209.

⁵² Moreman, *The Jungle*, 102.

⁵³ *Battle Drill for Thick Jungle* (Delhi: General Staff India, 1943); Moreman, *The Jungle*, 102.

⁵⁴ Slim, 143.

⁵⁵ Moreman, *The Jungle*, 98.

challenges.⁵⁶ Separate trials tested infantry and artillery weapons to assess what would be more or less effective for destroying bunkers. This combination of technical assessment, general principles for attack, and instruction for assaults, all contributed to enhanced abilities and a shared understanding about the new methods for attacking Japanese defences.⁵⁷

To counter IJA infiltration and encirclement, the army expanded the concept of defensive boxes into one of a larger defensive pivot system with mobile strike forces.⁵⁸ Previously, forces attempted to sustain defensive positions during a fighting withdrawal, causing defenders to become vulnerable when responding to IJA attack: the combination of terrain, distance, and supply made forces too thin and therefore a defending line “could always be turned.”⁵⁹ Instead, defending units now had to abandon the concepts of lines of defence or the necessity of holding terrain in favour of self-contained pivots and aiming to reduce IJA forces through grinding attrition. Senior leaders introduced the new pivots in April 1943, designed to hold only vital locations by using strong positions that contained all resources necessary for independent defence. The idea “quickly gained widespread acceptance” and was taught in formal schools.⁶⁰ The original concept of defensive boxes was altered to one of new locations to concentrate forces and increase their firepower, reduce the number of resupply lines that could be attacked, and perhaps induce IJA attackers to use limited avenues of approach into prepared killing grounds.⁶¹ These pivots could then destroy enemy forces by seizing a location that the IJA had to attack in order to hold a line of communication, and repulse IJA attackers with defensive firepower

⁵⁶ Moreman, *The Jungle*, 98.

⁵⁷ The British examination of IJA bunkers occurred largely independent of other Allied forces despite similar challenges in New Guinea and the Solomons. “Officers on the India–Burma front were unable to obtain information regarding the lessons which their counterparts learned” due to infrequent exchanges and physical separation. Douglas Ford, “US Assessment of Japanese Ground Warfare Tactics and the Army’s Campaigns in the Pacific Theatres, 1943–1945: Lessons Learned and Methods Applied,” *War in History*, Vol. 16, No. 3 (2009), p. 335. Ford also cites R. Lewin, *Slim: The Standardbearer* (London, 1976), p. 119, in Ford, 335, footnote 28.

⁵⁸ Carter Malkasian, *A History of Modern Wars of Attrition* (Westport, Connecticut: Praeger, 2002), p. 106.

⁵⁹ S. Woodburn Kirby, *India’s Most Dangerous Hour*, History of the Second World War United Kingdom Military Series Volume II, edited by James Butler (Uckfield, East Sussex: The Naval & Military Press Ltd, 2004), p. 350, originally published 1958.

⁶⁰ Moreman, *The Jungle*, 99.

⁶¹ For a discussion of defensive boxes and how previously they proved *ineffective* in North Africa, see Tim Moreman, “From the Desert Sands to the Burmese Jungle: The Indian Army and the Lessons of North Africa, September 1939–November 1942,” pp. 223–254, in Kaushik Roy, ed., *The Indian Army in the Two World Wars* (Boston, Massachusetts: Brill, 2012).

supported by mobile strike units to trap IJA attackers, even though these elements increased the number of forces to be sustained. Defenders would now weaken and exhaust IJA attackers, and then transition to counterattack to annihilate IJA forces.⁶²

In practice, implementing pivots required new concepts of operations, coordination, preparation, and procedures. Effectiveness depended on a shared understanding of how units must execute the revised actions. First and most obviously, using defensive boxes implied resupply and reinforcements since isolated forces could succumb to a siege or overwhelming firepower.⁶³ Coordinating aerial resupply became critical to enable the isolated forces to move and survive, as well as to eliminate a key vulnerability – reliance on ground-based lines of communication which the IJA previously had repeatedly cut. Indian Army opened an Air Supply Training Centre and created companies for this specific purpose.⁶⁴ The system was not faultless – commanders would compete for air assets and there was a need to coordinate resupply with forward units – but the basic idea was established with forces created and prepared to execute the modified mission.⁶⁵ The other, and possibly more important, element of new pivot tactics was the use of operational reserves in a coordinated system to trap IJA attackers. Otherwise, IJA assault forces could mass personnel and firepower against defensive boxes, or simply trap them and wait for exhaustion or possibly ineffective aerial resupply due to poor weather or maintenance problems from high operational tempo. The defensive box could withstand assaults if it possessed sufficient firepower, but only mobile reserves could annihilate an attacking force.⁶⁶ The isolated defensive units “were to form an anvil against which reserves could destroy the enemy forces from their rear.”⁶⁷ This combination of defensive boxes with reserves in a larger system

⁶² Kirby, *India's Most Dangerous Hour*, 351; Malkasian, 107-108.

⁶³ Feasibility of aerial supply was evident by 1942 and leaders recognized that it “could solve some of our worst problems,” but lack of transport aircraft caused reservations. Slim, 143.

⁶⁴ Director of Military Training, General Headquarters India to Director of Military Training, War Office, 23 March 1943, L/WS/1/1302, cited in Moreman, *The Jungle*, 99, footnote 107.

⁶⁵ Competition over air assets would present an enduring challenge for Allied forces across the theatre. Within Fourteenth Army the trade-off between resupplying different units would present an enduring tension.

⁶⁶ S. Woodburn Kirby, *The Decisive Battles*, History of the Second World War United Kingdom Military Series Volume III, edited by James Butler (Uckfield, East Sussex: The Naval & Military Press Ltd, 2004), pp. 127, 151, originally published 1961.

⁶⁷ Kirby, *The Decisive Battles*, 127.

reflected a new concept regarding how units and commanders would need to act. Defenders had to be prepared to select and remain in an isolated location, coordinate details with other units, and remain confident that they would be resupplied and reinforced. Subordinate units had to fight across semi-isolated locations, with supporting resources and firepower responsive to enemy actions. Resupply and reinforcement units had to understand the new concept of operations, and how they should execute in support. Rather than simply defensive boxes or new resupply, the pivots represented an altered concept that shaped numerous other methods and procedures.

Third, individuals and units learned and practiced the new ideas at the reformed training divisions, starting in December 1943.⁶⁸ The 14th Indian Division and 39th Light Indian Division had gained experience over the summer as officers attended Jungle Warfare Schools, NCOs had training sessions, and larger installations were constructed for attending units.⁶⁹ After three months the units began two-month courses with a first phase emphasizing fitness and basic skills in field training, weapons, and jungle movement, all largely through drills. The second phase moved units to the jungle for a more realistic context of camps, patrols, night assaults, and small-unit leadership.⁷⁰ Additionally, frontline officers and jungle warfare specialists would visit to deliver lessons and lectures. Training was “intensive, for nine hours a day, six days a week, and often including three nights’ work a week.”⁷¹

Fourth and finally, frontline units conducted small-scale practical application. This effort was facilitated by a larger army reorganization in October that created the Fourteenth Army under the Eleventh Army Group in Delhi, allowing Fourteenth Army to concentrate on Assam and re-attacking through Burma after freeing it from responsibilities for other parts of India.⁷² With better recruits,

⁶⁸ IOR/L/WS/1/1364, Formation of Training Divisions in India, 1943, BL. The file includes several telegrams with correspondence discussing the process of selecting and forming the training units, along with justification and timelines for implementation.

⁶⁹ Moreman, *The Jungle*, 93.

⁷⁰ Moreman, *The Jungle*, 93-94.

⁷¹ Jeffreys, *The British Army*, 42.

⁷² Moreman, *The Jungle*, 85; Slim, 168. General Slim took command of Fourteenth Army from commanding XV Corps, while General George Giffard took command of the larger Eleventh Army Group. By November 1943 the Fourteenth Army had two corps each with three divisions: XV Corps near Cox’s Bazar with the 5th Indian, 7th Indian, 81st West African divisions; and IV Corps at Imphal with the 17th Indian, 20th Indian, 23rd Indian divisions. Kirby, *The Decisive Battles*, 466.

more time, and the ability to realign personnel, Fourteenth Army improved readiness for major combat operations by focusing on basic skills and small-unit tactics. Forces in Assam and Arakan trained during the monsoon and, perhaps most importantly, conducted active patrolling to increase proficiency in the new skills, gain confidence in their appropriateness, and gather intelligence on Japanese dispositions.⁷³ Patrolling was assessed as “the master key to jungle fighting,” and as patrols met Japanese forces and experienced success in small skirmishes, the British increased their ability to move through the terrain and morale improved.⁷⁴ Early successes caused Fourteenth Army to expand the practice across the entire force for giving new units experience, skills, and confidence.⁷⁵ These traits would prove useful in the months ahead.

SECOND ARAKAN ENCOUNTER, JANUARY–MAY 1944

In early 1944 both Japan and Britain attacked into the Arakan peninsula and fought over many of the same objectives as the year before but with a very different outcome. The resounding Japanese defeat in the Second Arakan Encounter saw British forces decisively repulse IJA attacks and then drive IJA defenders out of well-prepared positions, a result labelled the “turning-point in the campaign.”⁷⁶ British forces applied the concepts they had learned over the previous months in new infiltration tactics, increased coordination between infantry and supporting firepower to breach the bunkers, and defensive boxes in a system of mobile pivots to withstand IJA assaults and to counterattack. Over several months, British XV Corps attacked, withstood a major counteroffensive, and re-attacked down the peninsula.⁷⁷

Events during the Second Arakan Encounter must be considered within Japanese plans which included two related but distinct efforts, a thrust into Arakan followed by an offensive into the Imphal plain. As British forces advanced into

⁷³ Moreman, *The Jungle*, 87.

⁷⁴ Slim, 142.

⁷⁵ Slim, 189.

⁷⁶ Slim, 246 Assessment of “turning point” in Allen, *Burma*, 187.

⁷⁷ Almost all the battles occurred from January to mid-March with the most intense fighting during February. Technically the XV Corps assault continued until 1 May as forces cleared the final defenders in the heavily-fortified Razabil during April. By late March the defenders were outnumbered and under-resourced, and the larger offensive had essentially succeeded while the IJA counterattack had failed and their forces withdrew. Conclusion in March of the most significant battles is important for dividing the Second Arakan Encounter from the larger Imphal operation which started in March.

Arakan the IJA planned a large attack into India to undermine the impending British offensive and perhaps incite a larger popular uprising to tie down forces and resources.⁷⁸ This scale of attack was enabled by the IJA increasing forces in Burma to seven divisions over the previous year.⁷⁹ In 1943 IJA HQ approved the plan, to be executed by the newly-formed Burma Area Army which possessed two armies of eight ground divisions, commanded by Lieutenant General Kawabe Masakazu.⁸⁰ In early 1944 the IJA HQ ordered Twenty Eighth Army to conduct *Ha-Go* into Arakan, with Fifteenth Army to conduct *U-Go* into Imphal later in the year.⁸¹ The operations occurred sequentially and will be analysed separately.⁸²

Forces and Plans

British XV Corps aimed to seize Akyab Island and nearby airfields, the same objectives as 1943, using two divisions to concentrate forces at a few points in IJA defences.⁸³ XV Corps would possess operational control, and initial moves by commander Lieutenant General Christison pulled back 26th Indian Division and sent forward the 5th and 7th Indian divisions to capture the road at Maungdaw.⁸⁴ The first phase aimed to occupy Maungdaw and to attack Japanese defenders along the 16-mile road linking the port to Buthidaung, to secure lines for operations in Kalapanzin Valley.⁸⁵ The 7th and 5th Indian divisions would move side-by-side down the Mayu Range, protected on their flank by parts of the 81st West African Division while the 26th Indian Division formed a corps reserve.⁸⁶ The 5th Indian Division would move along the range's west side to seize the Razabil fortress, while the 7th Indian Division would move on the east to seize Buthidaung.⁸⁷ The 7th Indian Division was one of first units to conduct jungle training, while the 5th Indian

⁷⁸ Hastings, *Retribution*, 66.

⁷⁹ Increasing from the original four divisions (55th, 33rd, 56th and 18th), the new Burma Area Army now included the 54th from Java, the 31st from Malaya, and the 15th from Siam. Slim, 231.

⁸⁰ Allan Millett and Williamson Murray, *A War to be Won: Fighting the Second World War* (Cambridge, Massachusetts: The Belknap Press of Harvard University Press, 2000), p. 349.

⁸¹ Edward J. Drea, *In the Service of the Emperor: Essays on the Imperial Japanese Army* (Lincoln, Nebraska: University of Nebraska Press, 2003), p. 53. The Japanese named operations after alphabet letters, so *U-Go* translates as Operation C and *Ha-Go* as Operation Z. In Allen, *Burma*, 170.

⁸² The Imphal operation will be examined in Chapter Eight.

⁸³ Slim, 226.

⁸⁴ Allen, *Burma*, 173.

⁸⁵ Moreman, *The Jungle*, 109.

⁸⁶ Moreman, *The Jungle*, 109.

⁸⁷ Jeffreys, *The British Army*, 30.

Division had arrived in June and began jungle training after fighting well in the Middle East and North Africa.⁸⁸

As units moved southward the Japanese also prepared to invade Arakan, using the new Twenty Eighth Army led by Lieutenant General Sakurai Shozo.⁸⁹ Initially stationed in Arakan to defend against a seaborne invasion, now the Twenty Eighth Army aimed to attack and to destroy XV Corps as well as to draw its reserves to weaken other forces in India.⁹⁰ The IJA aimed to split the two defending divisions by flanking the 7th Indian Division to isolate the unit and then destroy the 7th and 5th divisions in succession.⁹¹ The IJA 55th Division Infantry Group led by Major General Sakurai Tokutaro would attack the British near Buthidaung and then continue to occupy Taung Bazar in order to attack the rear of 7th Indian Division.⁹² Finally, forces would cross the Mayu Range to attack 5th Indian Division at Maungdaw.⁹³ The plan reflected an unchanged IJA “formula of attack” using encirclement and isolating forces by cutting lines of communication.⁹⁴

XV Corps Assault Progresses: Infiltration and Closing on the Bunkers

XV Corps attacked first, and initial engagements indicated benefits of the new tactics. In early November the 5th Indian Division moved toward Razabil and began active patrolling.⁹⁵ In the east, 7th Indian Division met IJA bunker systems; and as before the IJA had skilfully used the hilly terrain which would make frontal assaults very difficult. Accordingly, 7th Indian Division units would need to employ the new infiltration tactics to bypass defenders and envelop IJA lines by using the gaps between defensive positions.⁹⁶ Attackers would aim for an objective deeper behind the defenders and then attack from the new position against IJA units orientated—

⁸⁸ Jeffreys, *The British Army*, 31, 28.

⁸⁹ Callahan, 132; Allen, *Burma*, 171.

⁹⁰ Allen, *Burma*, 171.

⁹¹ Jeffreys, *The British Army*, 33.

⁹² Allen, *Burma*, 171-173. Sakurai took command of the infantry group in August 1943, part of the larger 55th Division led by Lieutenant General Hanaya. IJA divisions routinely possessed a modified command structure compared with British divisions, with the overall commander using a subordinate to conduct the major operations.

⁹³ Allen, *Burma*, 171.

⁹⁴ Allen, *Burma*, 173.

⁹⁵ Moreman, *The Jungle*, 111.

⁹⁶ Moreman, *The Jungle*, 112.

now incorrectly—against a frontal assault.⁹⁷ Larger operations began on 30 November as the division's 33rd Indian Brigade led assaults near Awlanbyin, and the revised infiltration tactics “paid off in practice” as entrenched defenders were attacked from the rear, isolated, and forced to withdraw in early December.⁹⁸ By mid-December the division reached Buthidaung and began opening the Ngakyedauk Pass for resupply and further operations.⁹⁹ Throughout December and January the 7th Indian Division continued to favour patrolling for locating defensive positions, followed by infiltration and encirclement against entrenched defenders.

Following these initial engagements, in January 1944 the 7th Indian Division explicitly directed units to rely on infiltration using the jungle's concealment to exploit opportunities using small-unit initiative and aggression. Frontal attacks were to be avoided since, it was now confirmed, “a stereotyped set-piece attack will have little chance of success.”¹⁰⁰ While frontal attacks remained easier to initiate, to control, avoided unknown territory, and therefore leaders might be tempted to employ them, only infiltration enabled attackers to manoeuvre into the positions behind IJA units that would make defenders sufficiently vulnerable to defeat.¹⁰¹ Thus, future actions would use reconnaissance patrols to determine the depth of defensive positions and then advance behind them, followed by strong attacks on the positions while the larger unit prepared for the inevitable IJA counterattack.¹⁰² Once this position was consolidated, in the final phase units would “steadily and methodically” eliminate Japanese positions one-by-one.¹⁰³ The result would be separate pockets of Japanese defenders caught between the British infantry units in their rear and the larger supporting arms firing from the front. Emphasizing lessons from the updated *MTP9*, the key element remained consolidation once the initial objective was reached and repulsing IJA counterattacks. Retaining control was highly difficult but extremely important as “all endeavour is completely wasted unless control is regained quickly and consolidation commenced without a

⁹⁷ Messervy, 5/5, 7 IND DIV COMD'S Operational Notes No. 5, 01 January 1944, p. 1, point 1, in Messervy, 7 Indian Div. Operational notes Nos. 1-13, LHCMA.

⁹⁸ Moreman, *The Jungle*, 112; Kirby, *The Decisive Battles*, 114.

⁹⁹ Moreman, *The Jungle*, 112.

¹⁰⁰ Messervy, 5/5, 1.

¹⁰¹ Messervy, 5/5, 1.

¹⁰² Messervy, 5/5, 1.

¹⁰³ Messervy, 5/5, 2.

moment's delay."¹⁰⁴ Additionally, units had to abandon past procedures of supporting artillery barrages since "all experience in the Arakan has demonstrated the utter futility of a formal infantry attack supported by artillery concentrations or barrage against Japanese organized jungle positions."¹⁰⁵ The concealment and physical strength of IJA defences rendered British artillery, alone, insufficient for destroying the bunkers. Yet the problem of closing on the Japanese positions and consolidating to repulse counterattacks persisted.¹⁰⁶ The prescription for future attacks would be infantry infiltration and encirclement using small units, followed in the position-clearing phase by artillery fire called by forward observers onto specific, isolated defensive positions to eliminate any remaining defenders.¹⁰⁷

Across the peninsula on Arakan's western coast, the 5th Indian Division began moving southward toward the Razabil defensive bunker complex. Initial movements saw the division begin fighting entrenched IJA defenders as it moved to seize Maungdaw. Similar to 7th Indian Division, attacking brigades of the 5th Indian Division employed the revised tactics of patrols and infiltration between bunkers to isolate defenders by cutting lines of resupply or reinforcement, resulting in frequent IJA withdrawals to fall-back defensive locations.¹⁰⁸ Benefitting from two months of jungle training in Ranchi which was "entirely new to most of the division," by early January the division's operations validated the new tactics, by showing "the only way to deal with the [Japanese] defences is by infiltration."¹⁰⁹ Vitality, fighting also revealed that the IJA had produced "nothing new in [defensive] tactics."¹¹⁰ Therefore, the IJA remained vulnerable in the same ways as had been studied over the previous year. The bunkers remained well-hidden and well-covered by supporting firepower but could be "eliminated piecemeal by infiltration tactics."¹¹¹ Frontal assaults should be avoided—and remained very costly—but if they had to occur then they were applied for isolation rather than annihilation, with the purpose

¹⁰⁴ Messervy 5/5, Appendix A, Notes On Attack, p. 1, point 3, 14 January 1944, LHCMA.

¹⁰⁵ Messervy 5/8, 7 IND DIVCOMD's Operational Notes No. 8, Infiltration Tactics, p. 1, point 1, 03 January 1944, in Messervy, 7 Indian Div. Operational notes Nos. 1-13, LHCMA.

¹⁰⁶ Messervy 5/8, 1.

¹⁰⁷ The other three tasks for artillery were deception, cover by smoke, and defensive fire against IJA counterattacks. In Messervy, 5/8, 2-3.

¹⁰⁸ Moreman, *The Jungle*, 113.

¹⁰⁹ WO 172/4278, 5 IND DIV Weekly News Letter No. 1, p. 1, points 1 and 5, 03 January 1944, in 5 Indian Division HQ "GS," 1944 Jan-March, TNA.

¹¹⁰ WO 172/4278, 5 IND DIV Weekly News Letter No. 1, 1.

¹¹¹ WO 172/4278, 5 IND DIV Weekly News Letter No. 1, 1.

of “strangulation, starvation, and attrition.”¹¹² Similar to the 7th Indian Division, the 5th Indian Division recognized how consolidation after seizing an objective remained essential, issuing additional guidance about the necessity of adhering to the new tactics.¹¹³ By late January the 5th Indian Division began probing Razabil with this same indirect approach, using patrols to identify IJA positions and then seizing nearby positions to threaten defenders and provoke either withdrawal or counterattack.¹¹⁴ Now positioned near the defensive stronghold at Razabil with its extensive bunker system, the British attackers faced the first significant test of their new tactics against well-prepared IJA strongholds in a larger fortification network.

Subsequent fighting would reveal attackers’ increased effectiveness against the heavily-defended fortification network caused by improved coordination between infantry and supporting firepower. Shaped like a large horseshoe, Razabil presented the first segment of a heavily fortified area using railway tunnels, bunkers, and mountainous terrain. In late January, the 5th Indian Division began to attack the Razabil bunkers in the face of “tenacious enemy resistance in well prepared positions.”¹¹⁵ On 26 January the 5th Indian Division began a four-day assault led by 161st Indian Infantry Brigade, a unit that had repulsed several IJA counterattacks in previous weeks.¹¹⁶ The 161st Indian Brigade led the attack supported, uniquely, by extensive artillery, armour, and air power.¹¹⁷ However, the close air support and artillery failed to cause any significant damage and infantry remained vulnerable when making the open, 1000-yard, approach unprotected.¹¹⁸ Similarly, while tank fire proved capable of destroying some IJA bunkers, the covering fire still failed to protect infantry crossing the last 50 yards and forces were unable to seize the

¹¹² Moreman, *The Jungle*, 113. A. Brett-James, *Ball of Fire: The Fifth Indian Division in the Second World War* (Aldershot: Gale and Polden, 1951), pp. 260-262, cited in Moreman, *The Jungle*, 113, footnote 20.

¹¹³ WO 172/4278, 5 IND DIV Weekly News Letter No. 3, 18 January 1944, 5 Indian Division HQ “GS,” 1944 January–March, TNA.

¹¹⁴ WO 172/4278, War Diary GS Branch HQ 5 IND DIV Commander, Major-General H.R. Briggs, DSO, January 44, Vol VIII, Part I, Resume of Month’s Events, 5 Indian Division HQ “GS,” 1944 Jan–March, TNA; Moreman, *The Jungle*, 113.

¹¹⁵ WO 172/4278, War Diary GS Branch HQ 5 IND DIV Commander, January 1944, 1.

¹¹⁶ WO 172/4451, 161 Indian Infantry Brigade Monthly War Diary, January 1944, in 161 Indian Infantry Brigade HQ, 1944 January–December, TNA.

¹¹⁷ WO 203/1793 Report by HQ 5 IND DIV on The First Battle of the Razabil Fortress, p. 1, in 5 Indian Division Report on the First Battle of the Razabil Fortress, 1945 January–March.

¹¹⁸ WO 203/1793 Report by HQ 5 IND DIV on The First Battle of the Razabil Fortress; Moreman, *The Jungle*, 115.

bunkers.¹¹⁹ Thus, the increase of firepower failed to overcome the challenge of coordinating arms to enable soldiers to close with the bunkers, and to do so without a significant pause which allowed defenders to regroup.¹²⁰ Over the next three days the 161st Brigade failed to defeat IJA defenders, but supporting tanks had displayed their ability “both to knock out bunkers and give very close fire support to infantry” as they approached.¹²¹ This new ability came from modified armour procedures applying a sequence of surface-burst shells to clear vegetation, delayed-action rounds to destroy forward bunkers, and armour-piercing rounds to cover infantry in the final approach.¹²² The altered techniques and new cooperation with infantry “provided a striking demonstration of the potential of [armoured fighting vehicles] in jungle fighting.”¹²³ Attacks by the 5th Indian Division’s 123rd Indian Brigade nearby on positions at “Wrenecat” and “Wrenkitten” displayed improved cross-arms coordination although continued to struggle in consolidating on the seized objectives due to Japanese counterattacks. Fighting uphill from a valley floor, tanks and medium artillery destroyed IJA bunkers with continuous fire, then used tanks’ armour-piercing rounds for the final assault.¹²⁴ One regiment concluded that with the new infantry–firepower cooperation, one or two platoons “can always reach the summit of any position.”¹²⁵ Initial assaults on the north side of Wrenecat were “completely successful” caused by infantry coordination with supporting fire, repeated later in subsequent assaults along the south side.¹²⁶ The problem, still, was that when reaching the bunkers the defenders’ quick and intense counter-fire continued to repulse the attackers. Even when British units withstood one counterattack, a subsequent, larger, “devastating” counterattack against the multiple

¹¹⁹ WO 203/1793 Report by HQ 5 IND DIV on The First Battle of the Razabil Fortress; Moreman, *The Jungle*, 115-116; WO 203/1175, Report on Assaults by Infantry Supported by Tanks, Artillery & Air on Japanese Positions in Razabil Area of Arakan 26–28 Jan. 44, Major H.W. Howell, G.S.O. II Research Directorate, March 1944, TNA.

¹²⁰ WO 203/1175, Report on Assaults, 11

¹²¹ WO 203/1175, Report on Assaults, 21.

¹²² Moreman, *The Jungle*, 116. Bryan Perrett, *Tank Tracks to Rangoon, The Story of British Armor in Burma* (London: Robert Hale, 1992), p. 85; Geoffrey Matthews, *The Reconquest of Burma 1943–1945* (Aldershot: Gale and Polden, 1966), p. 27; both cited in Moreman, *The Jungle*, 116, footnote 33.

¹²³ Moreman, *The Jungle*, 116.

¹²⁴ Moreman, *The Jungle*, 116.

¹²⁵ WO 172/4449, Report on the Operations on Wrenecat Hill by 1 Dogra, p. 3, 123 Indian Infantry Brigade HQ, 1944 January–December, TNA.

¹²⁶ WO 172/4449, Report on the Operations on Wrenecat Hill, 1-2.

positions under consolidation forced a withdrawal.¹²⁷ The platoon withdrawals indicated how immediate artillery and mortar fire was required against “all points from which enemy fire could be directed onto attacking infantry.”¹²⁸ Problems remained, but now the attackers possessed a framework and capability to improve the coordination required for the final seizure of bunker networks. Thus, by late-January the British had tested and began to refine the new tactics that eventually would enable forces to seize the position. Events had reinforced how forces, after seizing the bunkers, must employ supporting firepower immediately to attack other nearby locations that could fire upon the seized objectives. Otherwise, consolidating at the new positions proved too difficult in the short window of time before being fired upon. Ultimately the setbacks combined to halt the initial assault near Razabil on 30 January, but the tactics had proven sound and would deliver future gains. The British had “solved” a key problem by finding a way to get their infantry close to the bunkers “without a pause in the covering fire that kept his enemy’s head down.”¹²⁹

On 5 March, XV Corps resumed the larger offensive and defeated the defensive positions. Against the IJA bunker system at Razabil the 5th Indian Division restarted its offensive using infiltration and encirclement techniques that pushed out the defenders as things “proceeded successfully and according to plan.”¹³⁰ On 9 March the 161st Indian Brigade led the attack by moving into the hills and then cut IJA lines of communication, forcing defenders to withdraw.¹³¹ On 12 March the lead brigade overcame remaining IJA opposition, seized the dominant hill nearby, and by that afternoon attacking units possessed “the whole of the Razabil fortress.”¹³² Over the next several days, 5th Indian Division pushed into the surrounding areas in pursuit of remaining IJA defenders and cleared the tunnels.¹³³ The 123rd Indian Brigade continued to attack lingering forces in defensive positions

¹²⁷ WO 172/4449, Report on the Operations on Wrenat Hill, 2, 4.

¹²⁸ Moreman, *The Jungle*, 117. See Tank Operations, March 1944, PRO WO 231/20 and R.A. Notes No. 21, 15th Oct. 1944, L/WS/1/1331, cited in Moreman, *The Jungle*, 117, footnote 37.

¹²⁹ Slim, 230.

¹³⁰ WO 172/4278, 5 IND DIV Daily INT Summary No. 122 (Based on infm received from 1800 hrs 9 March to 10 March), p. 1, 5 Indian Division HQ “GS,” 1944 January–March, TNA.

¹³¹ WO 203/1793, 5 Indian Division Report on the Second Battle for the Razabil Fortress, 1945 January–March; Jeffreys, *The British Army*, 31; Slim, 244–245.

¹³² WO 203/1793, 5 Indian Division Report on the Second Battle for the Razabil Fortress.

¹³³ WO 172/4278, 5 IND DIV Daily INT Summary No. 124, part I-OPS; 5 IND DIV Daily INT Summary No. 126 (Based on infm received from 1800 hrs 13 MAR to 1800 hrs 14 MAR), p.1, both in 5 Indian Division HQ “GS,” 1944 January–March, TNA.

around the Razabil area, clearing it and gaining full control.¹³⁴ By that time the events at Razabil had revealed the superior utility of new infiltration tactics supported by coordinated firepower against the defensive bunker system. It was concluded that “even the strongest [Japanese] position is vulnerable if you can get behind it and attack it from the rear.”¹³⁵

Ha-Go Counterattack Repulsed: Pivots, Boxes, and Mobile Counterattacks

Concurrent with the fighting at Razabil, British forces withstood and repulsed a major Japanese counterattack using new pivots, defensive boxes, and improved small-unit tactics. After the 7th Indian Division and its three brigades moved forward relatively unopposed in early January, near the end of the month the IJA Twenty Eighth Army counterattacked to isolate the division.¹³⁶ By 1 February the IJA 55th Division threatened key positions after executing “a real Japanese breakthrough.”¹³⁷ Despite British forces anticipating an attack, the Japanese still surprised defending units and advanced several miles into positions behind the 7th Indian Division from which they could threaten Ngakyedauk Pass and division headquarters.¹³⁸ Attackers used “similar methods to those that had proved so successful in Arakan in 1943,” relying on columns to infiltrate through the jungle under cover of darkness using “speed, audacity and boldness.”¹³⁹ The plan “was based on the old successful Japanese formula of encirclement, cutting communications and withering the enemy.”¹⁴⁰ The IJA 55th Division aimed to isolate units from resupply so that they would respond as they had in the past, fighting backwards to clear their communications and thereby becoming vulnerable as they struggled to escape.¹⁴¹

The IJA main thrust made progress but stalled against the new defensive tactics. On 4 February the IJA advance overran 7th Indian Division headquarters at

¹³⁴ WO 172/4278, War Diary GS Branch HQ 5 IND DIV, Commander, Major-General H.R. Briggs, DSO, MAR 44, Vol. X, Part I, Resume of Month's Events, p.1, point 3, 5 Indian Division HQ “GS,” 1944 January–March, TNA.

¹³⁵ WO 203/1793, 5 Indian Division Report on the Second Battle for the Razabil Fortress, 2.

¹³⁶ WO 172/4290, 7 IND DIV Operation Instruction No. 25, 02 January 1944, p. 2, point 7, 7 Indian Division “GS,” 1944 January–December, TNA; WO 172/4290, Review of the Situation by COMD 7 IND DIV, 11 January 1944, 7 Indian Division “GS,” 1944; Moreman, *The Jungle*, 117.

¹³⁷ Slim, 235.

¹³⁸ Slim, 235.

¹³⁹ Moreman, *The Jungle*, 117.

¹⁴⁰ Moreman, *The Jungle*, 117.

¹⁴¹ Slim, 237–238.

Launggyaung and isolated defenders at Sinzweya.¹⁴² But unlike past instances, here the division first employed defensive boxes.¹⁴³ Rather than retreat, the defenders followed a prearranged plan to stop, assume all-around defence in the jungle, go to half-rations, and to coordinate aerial support.¹⁴⁴ The 7th Indian Division formed multiple rectangles of approximately two-by-four miles that each housed a brigade, one near Buthidaung, one across Kalapanzin Valley, one north of Ngakyedauk Pass, and the headquarters element in the Administrative Box at Sinzweya.¹⁴⁵ Brigades of the 7th Indian Division and one from the 5th dug-in for an all-around defence, and by 8 February it was surrounded by the 55th Division's main striking force of approximately 7,000 men that "had to destroy the 7th [Indian] Division in the next few days" to avoid stalling in the surrounding area.¹⁴⁶ Soon, 7th Indian Division reported that the Japanese "made further attacks and succeeded in infiltration through the thick jungle into [division headquarters] area and established a [machine-gun] post on the hill behind."¹⁴⁷ The isolated division headquarters was the weakest position since it was hastily prepared and contained mostly non-combat units, and became the focus of IJA attacks.¹⁴⁸ It remained in place at Sinzweya and fought the IJA as they assaulted and flanked the positions.¹⁴⁹ Occupying a flat area that prevented a continuous perimeter, defensive units formed "a series of small mutually supporting defensive localities" and fought across them.¹⁵⁰ Commanded by Brigadier Geoffrey Evans, the administrative units, supported by several detached infantry companies and two tank squadrons, repelled the first IJA attack on 6 February, beginning an 18-day battle.¹⁵¹ Throughout subsequent days the IJA

¹⁴² Jeffreys, *The British Army*, 33.

¹⁴³ Jeffreys, *The British Army*, 34-35.

¹⁴⁴ Moreman, *The Jungle*, 119.

¹⁴⁵ Moreman, *The Jungle*, 119.

¹⁴⁶ Slim, 239, 237, 240. The main striking force was formed around the 112th Regiment commanded by Colonel Tanahashi who previously had "proved himself the most formidable of the enemy leaders in our 1943 Arakan disasters." Slim, 237.

¹⁴⁷ WO 172/4290, War Diary or Intelligence Summary, Summary of Event and Information, 12 February 1944, 0630 hours, in 7 Indian Division "GS," 1944 January–December, TNA.

¹⁴⁸ Moreman, *The Jungle*, 119.

¹⁴⁹ WO 172/4290, War Diary or Intelligence Summary, Summary of Event and Information, February 1944, 16–29 February, in 7 Indian Division "GS," 1944 January–December, TNA; Jeffreys, *The British Army*, 33; Allen, *Burma*, 176.

¹⁵⁰ Moreman, *The Jungle*, 119.

¹⁵¹ Moreman, *The Jungle*, 119.

attackers repeatedly attempted to penetrate the area and were repelled by defenders who, afterwards, found Japanese bodies in groups up to 50 dead.¹⁵²

The division's individual brigades similarly repulsed IJA attacks throughout the month.¹⁵³ For the 33rd Indian Brigade, once dug-in on 9 February, the units fought Japanese almost daily along the perimeter.¹⁵⁴ IJA attackers repeatedly attempted to breach the positions, with British forces repulsing the infiltrations and sending out fighting patrols.¹⁵⁵ On 14 February the forces survived a three-battalion night assault.¹⁵⁶ The 89th Indian Brigade similarly fought off frequent IJA attacks in mid-February.¹⁵⁷ Facing continued setbacks against the new British defensive positions, hints of IJA inflexibility began to emerge as attackers would repeat failed assault routes, changing only the number of attackers rather than how they fought.¹⁵⁸

Across the operation, forces in XV Corps now battered IJA units as the *Ha-Go* offensive “ground to a halt in front of these self-contained all-round defensive boxes.”¹⁵⁹ Inside the boxes, tanks and artillery acted as mobile bunkers to repulse Japanese attacks.¹⁶⁰ After supporting the 7th Indian Division during mid-February, the 26th Indian Division moved behind IJA units in the Kalapanzin Valley while 5th Indian Division fought at Ngakyedauk Pass and then eliminated the IJA's secondary force for the entire offensive.¹⁶¹ By late-February the IJA began to withdraw with the main force of 7,000 having lost over 5,000 dead others wounded or sick in the jungle.¹⁶² Finally, the 7th Indian Division seized Buthidaung and Letwedet Fortress.¹⁶³ On 12 March—the same day the 5th Indian Division reattacked Razabil—units of the 7th Indian Division continued killing Japanese defenders

¹⁵² WO 172/4290, 16–29 February.

¹⁵³ Allen, *Burma*, 185.

¹⁵⁴ WO 172/4407, War Diary, daily entries, February 1944, in 33 Indian Infantry Brigade HQ, 1944 January–December, TNA.

¹⁵⁵ WO 172/4407, War Diary, February 1944.

¹⁵⁶ Allen, *Burma*, 185.

¹⁵⁷ WO 172/4439, War Diary, daily entries, February 1944, in 89 Indian Infantry Brigade HQ, 1944 January–December, TNA.

¹⁵⁸ Allen, *Burma*, 184.

¹⁵⁹ Moreman, *The Jungle*, 119.

¹⁶⁰ Allen, *Burma*, 185.

¹⁶¹ WO 172/4355, H.Q. 26 Indian Division HQ “G Branch,” 1944 January–December, Intelligence Summary, 14–15 February 1944, TNA; Moreman, *The Jungle*, 120–121. The secondary force was a battalion group led by Colonel Kubo and labelled “Kubo Force.” Slim, 237, and Moreman, *The Jungle*, 121.

¹⁶² Slim, 243; Moreman, *The Jungle*, 121.

¹⁶³ Moreman, *The Jungle*, 121.

whose situations were quickly worsening. In one day “at least 180 bodies were recovered... all except 30 of these being killed within the previous 24 [hours].”¹⁶⁴ Intense fighting—including hand-to-hand combat—cleared practically all remaining defenders, with many dead “buried beneath the debris of the battered [Japanese positions].”¹⁶⁵ On 25 March a final 400-member, near-suicide IJA attack against the Administrative Box failed, and by late March XV Corps controlled the entire Buthidaung–Letwedet area.¹⁶⁶

Reflecting in April, the 7th Indian Division commander likely exaggerated in that the division “never lost a position to the enemy or failed in any attack,” but this assertion illuminates how forces performed much better compared with the failures of 1942.¹⁶⁷ Units still fighting to clear the tunnels at Razabil were replaced by the 26th Indian Division, brought from reserve, and the area was finally secured on 3 May.¹⁶⁸ Separately, the 81st West African Division failed in the Kaladan Valley as they were pushed out by forces from the IJA 54th Division and had to withdraw to Sangu, but this setback could not reverse the “historic success of British arms” during the Second Arakan Encounter.¹⁶⁹ XV Corps suffered 3,506 casualties but had soundly defeated IJA attackers as well as the defensive bunker positions. The operation also revealed the “massive significance” of the new combat techniques.¹⁷⁰

Evaluating British Success and Identifying Effectiveness

The Second Arakan Encounter provides a clear example of operational success. First, attacking forces achieved the assigned mission of controlling Arakan through the entire Buthidaung–Letwedet area. Second, XV Corps achieved nearly all its objectives while suffering casualties within acceptable parameters and a reasonable timeframe for the operation.¹⁷¹ Unlike the failed First Arakan Offensive, now the

¹⁶⁴ WO 172/4290, 7 Ind Inf Div. Daily Intelligence Summary No. 10, Based on information received up to 0900 hrs 13 Mar '44, p. 1, 7 Indian Division “GS,” 1944 January–December, TNA.

¹⁶⁵ WO 172/4290, 7 Ind Inf Div. Daily Intelligence Summary No. 10, 1.

¹⁶⁶ Slim, 244.

¹⁶⁷ WO 172/4290, Special Order of the Day by Major-General F.W. Messervy, OB, Commander 7 IND DIV., 4th April 1944, 7 Indian Division “GS,” 1944 January–December, TNA.

¹⁶⁸ Slim, 245.

¹⁶⁹ Slim, 245–246.

¹⁷⁰ Moreman, *The Jungle*, 122.

¹⁷¹ 3,506 casualties in four months of fighting across at least four divisions, while the Japanese suffered at least 5,000 across an expanded Infantry Division. Moreman, *The Jungle*, 122; Slim, 243.

divisions in XV Corps displayed an ability to conduct offensive and defensive battles employing improved (and more difficult) tactics. Conversely, IJA defenders and attackers applied unchanged tactics with the same skill and tenacity, but their unchanged performance allowed British forces to overcome them.

British forces increased operational effectiveness to an intermediate level while the IJA remained unchanged. Fighting largely as divisions and brigades, British forces demonstrated several improved abilities. First, units displayed enhanced basic skills and core combat abilities in both the attack and defence. Across numerous battles both the 7th and 5th Indian divisions consistently displayed core combat skills in unit cohesion, disciplined tactics, weapons employment, and basic logistics. Perhaps these abilities are seen most clearly in the Administrative Box fighting, as a mix of forces skilfully executed a static defence and repulsed IJA assaults by combining manoeuvre and firepower across small-unit engagements. Forces across the brigades also displayed improved basic abilities when executing the new techniques of patrolling, infiltration, encirclement, bunker attack, and pursuit. Without these core skills, the more complex actions would be impossible. These improvements likely resulted from the 5th and 7th Indian divisions being better-prepared than preceding units in both general abilities and specific skills. The 5th successfully fought over two years in the Middle East while the 7th was considered one of the best-trained units in Southeast Asia.¹⁷² But both also had benefitted from specialized training. The 5th spent time in Ranchi undergoing training for jungle warfare, where also it lightened transport and weaponry.¹⁷³ It incorporated several units with previous experience in Arakan, to include veteran officers and NCOs.¹⁷⁴ The 7th was “one of the first formations to embark on jungle training” and, closer to Arakan, several early skirmishes revealed deficiencies which enabled their remedy and improvement.¹⁷⁵ The units could use their foundation of general readiness upon which to build specialized skills of jungle warfare.

British forces also overcame four previous shortcomings. First, forces avoided the costly, slow, and ineffective frontal assaults with new infiltration tactics

¹⁷² Moreman, *The Jungle*, 110.

¹⁷³ Jeffreys, *The British Army*, 29-30.

¹⁷⁴ Jeffreys, *The British Army*, 30.

¹⁷⁵ Jeffreys, *The British Army*, 31; Moreman, *The Jungle*, 110.

supported by patrols. This improved ability was displayed most clearly in the 7th Indian Division's attacks near Awlanbyin, and the new tactics were employed effectively by both divisions as their units consistently infiltrated between and behind IJA lines.¹⁷⁶ Using low-level initiative and high-level coordination, forces located key areas behind IJA positions to make defenders vulnerable, and then fought in relative isolation once extended beyond lines of communication to continue the attack. Like the 5th Indian Division near Maungdaw,¹⁷⁷ infiltration and patrols regularly forced IJA defenders into either a costly counterattack or withdrawal, in clear contrast to the First Arakan Offensive. Second, new coordination to combine armour and infantry overcame the previous inability to penetrate and clear IJA bunker systems. The 161st Indian Brigade's four-day assault on heavily-fortified Razabil indicated the capacity of tanks to destroy bunkers when airpower and artillery failed, and to cover infantry as they closed on the fortifications.¹⁷⁸ Later the 123rd Indian Brigade at Wrencat and Wrenkitten used armour to give covering fire for the infantry over the final 25 yards with a sequence of high-explosive and armour-penetrating rounds, followed by immediate fire once a bunker was seized to counter IJA indirect fire against the position.¹⁷⁹ These new techniques and cooperation combined with altered infantry assaults, ultimately, to clear defenders "out of the strongest possible natural positions that they had been preparing for months and were determined to hold at all costs."¹⁸⁰ Third, the new technique of responding to IJA attacks by employing pivots with defensive boxes successfully countered Japanese offensive tactics that had previously proved so devastating. When the brigades of 7th Indian Division were surprised and surrounded then units established boxes, held them in defence, coordinated resupply, conducted patrols, and employed reserves to attack the IJA.¹⁸¹ Pivots and boxes displayed the disciplined application of basic combat skills in weapons handling and small-unit

¹⁷⁶ Messervy, 5/5; Messervy, 5/15.

¹⁷⁷ WO 172/4278, 5 Indian Division HQ "GS," 1944 January–March.

¹⁷⁸ WO 172/4451, 161 Indian Infantry Brigade HQ, 1944 January–December; WO 203/1175, Report on Assaults.

¹⁷⁹ WO 172/4449, Report on the Operations on Wrencat Hill; WO 172/4278, War Diary GS Branch HQ 5 IND DIV.

¹⁸⁰ Slim, 246.

¹⁸¹ WO 172/4290, 7 Indian Division "GS." See also Moreman, *The Jungle*, 119; Slim, 237–240.

leadership, but the larger system entailed a complex interaction that skilfully coordinated resupply and reinforcement by brigade and division assets. Fourth, all these events occurred in the jungle, where previously British forces struggled to move, were quickly encircled, and relied on ground-based lines of communication which caused units to struggle with independent action. During the Second Arakan Encounter, in contrast, forces indicated an improved understanding of how the jungle and related force disposition required changed concepts about battle lines. This unique environment required pockets of forces that could move and support each other in a coordinated fashion against an enemy from many directions. In some ways, all the specific lessons of tank–infantry coordination, tactical infiltration, patrols, and defensive boxes reflected this altered conceptualization of jungle warfare.

In contrast, Japanese inflexibility exacerbated their setbacks. This unwillingness or inability to change would play a larger role later in the campaign, but it first began to manifest during the Second Arakan Encounter as the IJA consistently applied similar tactics despite their reduced effectiveness. Whether unchanged assaults against the 7th Indian Division and its isolated units, or repeating patterns of attack despite failures against the defensive boxes, or similar attacks against the new pivots system, or performing the same pattern of bunker defence until attackers learned how to close, to hold, and to clear the tunnels, the IJA consistently failed to adapt. It remains unclear if this IJA commitment to unchanging tactics was due to previous successes which failed to inspire an impetus for change, confidence in morale and will to produce a different outcome, or other factors. What is clear is how repeated IJA setbacks did not cause any significant change during the operation even as the British indicated new abilities and advantages over the Japanese. During the Second Arakan Encounter, evidence began to emerge of IJA tactical rigidity that would harm future operations, with units repeating mistakes and producing similar failures. In early 1944, this inability to change caused unnecessary casualties.¹⁸² It also foreshadowed more to come.

¹⁸² Allen, *Burma*, 184.

Figure 5.1: Measuring Adaptation, Effectiveness, Outcome: Second Arakan Encounter

	WARTIME CHALLENGE	TACTICAL ADAPTATION	OPERATIONAL EFFECTIVENESS	IMPACT ON OUTCOME	OPERATIONAL OUTCOME
GB	IJA BUNKERS	FIREPOWER COORDINATION; INFILTRATION ASSAULTS	INCREASED: INTERMEDIATE	ENABLED SUCCESS	SUCCESS
	INFILTRATION ATTACKS	PIVOTS, DEFENSIVE BOXES, MOBILE COUNTERATTACK			
	JUNGLE FIGHTING	SMALL-UNIT SKILLS, PATROLS, ASSAULTS			
IJA	BUNKERS DEFEATED	NONE	NO CHANGE: INTERMEDIATE	EXACERBATED SETBACKS	FAILURE
	NEW PIVOT DEFENSES	NONE			
	SMALL UNIT INFILTRATION	NONE			

Findings and Relevance

Case Study Assessment: British tactical adaptation during 1943 resulted in operational success during the Second Arakan Encounter in 1944.

For this case study, Hypothesis 1 (H1), central vertical information mechanism over decentralized horizontal, is affirmed. The Indian Army's ability to assess setbacks, devise solutions, and implement changes to execute as desired proved critical for increasing effectiveness and contributing to success. Starting with the creation of the Infantry Committee and appointment of the Director of Infantry, the larger army leadership recognized a need to adjust practices to improve the branch. By assessing battlefield setbacks as displayed in 1942—and particularly the need for a single authority to determine, control, and revise doctrine—staff and units could then be directed to provide answers in accordance with operational requirements. Once ideas were considered, evaluated, and refined, the central authority could task subordinate units and training centres to follow the revised

methods. Additional lessons could be assessed and disseminated in the *AITM* or other official correspondence. This capacity for standardizing practices, concepts, and training appears particularly relevant in the development of defensive pivot systems due to the large amount of personnel and units that had to operate within a shared conceptual framework that was significantly different from past practices.

Hypothesis 2 (H2), anticipation over improvisation, is affirmed. Preparation for the known problems and expected challenges of fighting IJA defenders in bunkers, using the new pivot systems against IJA infiltration, and inculcating infiltration and jungle tactics across the infantry, all contributed to improve performance and enabled XV Corps to attain all objectives with reasonable expenditures in time and resources. Once prepared in these measures, British forces faced essentially no setback for which they were completely unprepared. While the isolation of 7th Indian Division and attacks against the headquarters element posed the greatest risk to British units during the offensive, defending units responded in the pre-planned manner and made no significant changes to the pivot system. When the 5th Indian Division failed to clear the Razabil bunker system in the first wave of assaults, units adjusted the cooperation between infantry and supporting firepower but did not implement any wholesale change in tactics. Rather, units assessed the difficulties of closing, consolidating, and repulsing IJA counterattacks, and then incorporated improvements within the existing techniques. While improvisation may have assisted in modifying some of the new tactics, it was consistently the larger changes incorporated before fighting began that delivered the greatest impact and contributed to success.

Hypothesis 3 (H3), skill over technology, is affirmed. For H3, the new concepts, their incorporation through training, and subsequent employment directly increased battlefield effectiveness and enabled success. Compared with the invasion and First Arakan Offensive when the British possessed advantages in more modern equipment and technological sophistication yet attained only low effectiveness, during the Second Arakan Encounter the British employed new tactics based on changed concepts on which they had been reorganized and retrained. While firepower proved valuable—particularly for closing on the bunkers—the key difference from the past was how units could coordinate and cooperate with that firepower for a synergistic application of effects. The adapted tactics produced a

very different outcome than against the bunkers in early 1943, when a small group of IJA defenders repulsed multiple brigades. Relatedly, the new infiltration tactics required no significant technological enhancement. They remained grounded in small-unit tactical training, core competencies, and an updated concept for their use built upon improvements in mobility, coordination, and patrols. Regarding the pivots, XV Corps did employ new methods of resupply, but this procedure would not matter without the broader change in concepts for boxes and reinforcements in a larger pivot system. At this time, air resupply remained inherently unsustainable in the long-term due to the limited amount of resources that air could deliver, as well as challenges associated with weather and maintaining aircraft. Without the broader reconceptualization of battlefield tactics into pivot systems to withstand attacks and to counter with mobile assault teams, British forces could have been isolated, eroded, and defeated. One could argue that the IJA's position would have been different if supplied for a longer operation or if possessing superior firepower to breach defences, counter British armour, or even destroy the fuel and ammunition supplies vital to the defence.¹⁸³ However, during the operation the significant changes in battlefield performance, seen in the defensive pivots as well as across the peninsula, were due to the qualitative changes in new tactics that had been considered, taught, and applied by early 1944. Improved IJA resources likely would have limited some Japanese setbacks but it must be concluded that they were unlikely to overcome the new imbalance in skill caused by British adaptation.

Figure 5.2: Findings for the Second Arakan Encounter

Measurement Scale: (+) Affirm \Leftarrow Support \Leftarrow Neutral \Rightarrow Dispute \Rightarrow Contradict (-)

	INVASION 1942	FIRST ARAKAN 1942-43	SECOND ARAKAN 1944	FIRST LRPG 1943	SECOND LRPG 1944	IMPHAL 1944	BREAKOUT 1945
H1: CENTRAL	NEUTRAL	SUPPORT	AFFIRM				
H2: ANTICIPATE	DISPUTE	DISPUTE	AFFIRM				
H3: SKILL	AFFIRM	AFFIRM	AFFIRM				

¹⁸³ Allen, *Burma*, 187.

Chapter Six

Adapting toward Failure:

Long-Range Penetration Groups, 1942–43

After seizing Rangoon in March 1942, the Imperial Japanese Army reinforced and postured for defence with four divisions spread across the country. British planners faced decisions about how to respond after units had revealed low readiness, a lack of mobility, an inability to fight in the jungle, and poor small-unit skills. One idea aimed at restoring speed and movement to attack IJA defenders spread thin across the jungle: to create new units of Long Range Penetration Groups (LRPG) that could raid, attack, isolate IJA units, and force their withdrawal. By freeing units from the requirements associated with conventional firepower and logistical support, leaders intended the new force to operate deep inside IJA-held territory and erode the Japanese force. This new force and its altered tactics represented a significant adaptation, shaping battlefield performance and operational outcome. The result, however, was two costly failures. Additionally, wartime adaptation decreased effectiveness. Thus, the LRPG indicate two important risks associated with wartime change. First, that tactical adaptation may contribute to failure. Second, that additional adaptation may exacerbate costs. Therefore, examining the LRPG suggests some of the costs when adaptation fails. The cases also warn about what conditions may risk additional lives and resources.

Assessment and Change: Light Columns to Disrupt and Induce Withdrawal

In Summer 1942 Indian Army Commander-in-Chief Wavell authorized a modified force to operate behind Japanese lines.¹ Fundamentally “there was nothing particularly fantastic about the real basis” of LRPG notions but, uniquely, they altered tactics by replacing ground supply with air transport coordinated through wireless radio.² The resulting increase in mobility, flexibility, and speed would allow LRPG to manoeuvre in the jungle with less restrictions than conventional

¹ As endorsed by senior UK leadership. See Raymond Callahan, “The Prime Minister and the Indian Army’s Last War,” in Kaushik Roy, ed., *The Indian Army in the Two World Wars* (Boston, Massachusetts: Brill, 2012), p. 325.

² Louis Allen, *Burma: The Longest War 1941–1945* (London: J.M. Dent & Sons, Ltd., 1984), p. 120.

units—operating freely but never unsupported. Their target would be Japanese defenders dispersed thinly across the country with long lines of communication vulnerable to attack. Originally designed as a vanguard force to accompany a larger invasion, eventually LRPG deployed as an independent force to disrupt IJA lines, operations, and to induce their consolidation around support positions. With four IJA divisions in frontier defence against possible invasion, IJA lines appeared vulnerable to the increased movement available in LRPG's raids.³ In addition to physical destruction of resources, LRPG could force IJA units to withdraw from forward areas and divert forces to protect their supply lines, freeing frontline space for future Allied operations.⁴ For this mission, former jungle warfare instructor Orde Wingate assembled a force from conventional units and developed new training for operations into Burma.⁵

During 1942 the concept of LRPG evolved through Wingate's writings into the form it would be employed in 1943 as light infantry troops attacking Japanese targets to force IJA withdrawal.⁶ Arriving in Burma soon after the fall of Rangoon and tasked to consider guerrilla operations in Burma or China,⁷ Wingate instead proposed a theory of long range penetration.⁸ The general nature of LRPG likely descended from paramilitary and guerrilla units used by Wingate and Wavell in the Middle East and Africa, but with several specific differences which render the

³ Allen, *Burma*, 120.

⁴ Simon Anglim, "Orde Wingate, 'Guerrilla' Warfare and Long-range Penetration, 1940–44," *Small Wars and Insurgencies*. Vol. 17, No. 3 (September 2006), p. 254. Contemporary discussions emphasize the LRPG's special nature, but it bears reminding how the initial force was a standard unit with a mission more akin to "a kind of extended cavalry raid" than modern special operations forces. Allen, *Burma*, 116.

⁵ In 1942 Wingate arrived in Burma to run a jungle warfare school in Maymyo. Ian F.W. Beckett, *Modern Insurgencies and Counter-Insurgencies: Guerrillas and their Opponents since 1750* (New York: Routledge, 2001), pp. 55–56.

⁶ Anglim, 241–262. Anglim delivers a detailed account of Wingate's personal experiences since entering the army and how they influenced his ideas and interests. For additional discussion about Wingate's life and impact on military thinking, see Donovan Webster, *The Burma Road* (New York: Perennial, 2003), pp. 81–110.

⁷ Wingate was temporarily in charge of the Bush Warfare School and Maymyo. The British-run facility trained Chinese guerrillas to operate in China or Burma. See Frank McLynn, *The Burma Campaign: Disaster into Triumph 1942–45* (London: Vintage Books, 2010), p. 79; S. Woodburn Kirby, *India's Most Dangerous Hour*, History of the Second World War United Kingdom Military Series Volume II, edited by James Butler (Uckfield, East Sussex: The Naval & Military Press Ltd, 2004), p. 242, footnote 4, originally published 1958.

⁸ Kirby, *India's Most Dangerous Hour*, 242.

LRPG distinct.⁹ The 1942 draft paper “Notes on Penetration Warfare” argued that long range penetration could deliver a “great value” but that Burma Command lacked an organization with sufficient capacity to conduct this type of operation.¹⁰ To succeed it would be necessary to exit the tactical area of general army support and to push beyond where routine support was possible, living and operating over 100 miles inside enemy territory. By operating small columns directed through wireless communications and resupplied from air, the forces could achieve large effects by attacking an enemy’s vulnerable vital points and thereby “deliver fatal blows at his military organization.”¹¹ During May and June, Wingate presented his ideas based on three core ideas. First, the assumption that IJA troops behind the frontlines would be inferior in readiness and capabilities compared with frontline troops, making them more vulnerable to attack. Second, that a force with sufficient preparation could penetrate behind IJA forces, coordinate with wireless radio, and resupply from the air. Third, that attacking IJA lines of communication would “tie up a disproportionate number of enemy troops.”¹² These ideas would be refined over the subsequent months, but the overall logic was clear, and the core precepts would remain largely unchanged.

The new mission of LRPG was to concentrate against IJA units behind their forward lines to induce withdrawal. Dispersal served as a preparatory method for moving toward undefended vital points and, after an attack, to evade pursuing Japanese. Writing in September 1942, Wingate clarified the concept of force and operations to reflect this refined mission and methods.¹³ Intending columns to act independently behind IJA lines for “indefinite periods,” the LRPG would attack “vital objectives” to disrupt IJA plans and operations.¹⁴ Now, the LRPG aimed to infiltrate 200–300 miles past frontline units and then concentrate attacks which would lure defenders in pursuit of the groups of columns, followed by the columns

⁹ In Burma, the LRPG would not conduct a guerrilla campaign, would resupply from air, and operate under regular command and control, but would use some similar methods in dispersal, concealment, field craft, and speed to infiltrate defended areas. Anglim, 254.

¹⁰ Orde Wingate, “Notes on Penetration Warfare—Burma Command 25/3/42,” draft paper, p. 1 Wingate Burma Box Papers, Box I, item 2, IWM.

¹¹ Wingate, “Notes on Penetration Warfare,” 2.

¹² McLynn, 81. See Christopher Sykes, *Orde Wingate* (London: Collins, 1959), pp. 367-369.

¹³ Orde Wingate, “77 Indian Infantry Brigade,” 22 September 1942, p. 1, Wingate Burma Box Papers, Box I, item 11, IWM.

¹⁴ Wingate, “77 Indian Infantry Brigade,” 1.

dispersing to “lead the enemy... on a wild goose chase.”¹⁵ The intended effect was to “compel the withdrawal from forward operational areas of very considerable enemy forces for defence of [lines of communication] installations, and pursuit of columns.”¹⁶ With thinly-spread IJA units suffering “incessant spasmodic attacks by columns,” they would have to withdraw to protect their “long and vulnerable lines of communication.”¹⁷ This necessity would compel larger alterations of their plans and operations, furthering the disruption of Japanese defensive organization.¹⁸ With the concepts of LRPG formed, now they needed to be incorporated into a unit prepared for the new combat purpose, considered a prerequisite for conducting the unique mission.¹⁹

The army’s adoption of LRPG and their underlying principles occurred through lobbying and endorsement rather than institutional vetting. A small group of advocates gained support via the approval of senior officials, rather than any formal body to consider, vet, experiment, or implement new ideas. The initial endorsement of LRPG theory and its subsequent support to create the new brigade relied largely on a small group of people across the British political-military establishment. First, “that Wingate was in India at all was Wavell’s doing.”²⁰ The Commander-in-Chief India, who previously worked with Wingate in Palestine and Ethiopia,²¹ summoned him to explore options for “unorthodox warfare” in Burma.²² Initially Wavell brought the new colonel to explore guerrilla operations with Chinese forces and, as the situation changed, tasked Wingate with overseeing all counter-IJA guerrilla operations in Burma.²³ But, eventually, Wavell “allowed himself to be persuaded by Wingate to give [LRPG] a trial.”²⁴ It would be Wavell that approved forming LRPG in the 77th Indian Infantry Brigade in mid-1942. Second, Wingate drove events with his advocacy for LRPG concepts. Part of this commitment was displayed in his

¹⁵ Wingate, “77 Indian Infantry Brigade,” 1.

¹⁶ Wingate, “77 Indian Infantry Brigade,” 1.

¹⁷ Wingate, “77 Indian Infantry Brigade,” 1.

¹⁸ Wingate, “77 Indian Infantry Brigade,” 1.

¹⁹ Wingate, “Notes on Penetration Warfare,” 1.

²⁰ Callahan, “The Prime Minister and the Indian Army’s Last War,” 325.

²¹ Anglim, 241-242.

²² Allen, *Burma*, 119. As Commander-in-Chief of Palestine, Wavell authorized Wingate to create small counterterrorism teams, the Special Night Squads, and later introduced guerrilla forces in Ethiopia against the Italians. McLynn, 71-74.

²³ McLynn, 78-79.

²⁴ Callahan, “The Prime Minister and the Indian Army’s Last War,” 325.

“tendency to write strategic manifestos rather than straightforward reports, its core being Wingate’s advocacy of long-range penetration.”²⁵ In some instances, this tendency toward subjectivity and concern with the perception by others caused in Wingate’s writings a “failure to tell the whole truth” and occasionally “outright lies.”²⁶ As it turned out, Wingate’s techniques proved successful: “he was granted interviews with generals... far beyond what his rank and achievements warranted.”²⁷ Wingate then promoted his ideas by presenting the concepts at conferences during May and June.²⁸ Initially, senior leaders responded coolly, particularly the requirements of air support and allotting personnel.²⁹ The lack of support meant that “only the influence of Wavell” prevented the “outright rejection” of the new ideas, but Wingate would gain additional believers.³⁰ Third, fourth, and fifth were a small nucleus of advocates who would shape the force and command leadership positions. Around April 1942, Wingate met Major Michael Calvert³¹ at the Bush Warfare School which had been placed under Wingate, and with Calvert as second-in-command they began to guide LRPG development.³² Trained as a sapper, Calvert previously saw the Japanese in China, fought in Norway, served at the Lochailort commando training centre, and at the Bush Warfare School he mounted raids and trained Chinese guerrillas.³³ Wingate and Calvert gained the support of GHQ Joint Planning Staff member Major Bernard Fergusson, who “had met Wingate in Palestine and again in Cairo,” and became convinced over the summer to join his plan for Burma.³⁴ Captain George Dunlop, a veteran of the retreat into India, provided additional support which, combined with the others, now meant that “Wingate had the credibility to press his commander-in-chief harder.”³⁵

²⁵ Anglim, 248.

²⁶ McLynn, 87.

²⁷ McLynn, 87.

²⁸ McLynn, 81.

²⁹ Specifically, the Director of Staff Studies who allotted theatre personnel. McLynn, 81-82.

³⁰ McLynn, 82.

³¹ Mike Calvert would become “the most successful of all the Chindit leaders in the field.” David Rooney, *Burma Victory: Imphal, Kohima and the Chindit Issue, March 1944 to May 1945* (London: Arms and Armour 1992), p. 108.

³² McLynn, 79; Rooney, 108.

³³ Allen, *Burma*, 119.

³⁴ Sykes, 367.

³⁵ McLynn 82.

Subsequently, Wavell allotted forces and re-designated them as LRPG. In July 1942 the new unit formed and moved into India's central provinces for training.³⁶

The new 77th Indian Brigade included about 3,000 people across three battalions supplemented by a commando company.³⁷ The organization reflected a consistent practice across all LRPG of employing regular personnel, and throughout the force's existence it "never had a formal recruitment or selection procedure."³⁸ One battalion served as the first infantry component, pulled from 13th King's Liverpool Regiment, which previously conducted coastal defence and garrison duties. Another battalion derived from a Gurkha Rifles unit raised in wartime. The final battalion drew from the Burma Rifles that had retreated from Burma.³⁹ Members from the 13th possessed low overall readiness, the Gurkhas were regarded highly, and the Burma Rifles were probably best-suited for the LRPG despite a negative view by Wingate.⁴⁰ Supplements from the Bush Warfare School became 142 Commando Company, and this group proved "by far the best and most experienced."⁴¹ The other forces were less prepared, and during late 1942 "the majority of 77th Indian Infantry Brigade needed remedial basic work in addition to specialized instructions in the tactics of LRP."⁴² The units would be divided into columns of approximately 350 people organized around an infantry company and commanded by a major. After replacing some personnel, the result was three British and four Gurkha columns.⁴³ Uniquely, the 77th Indian Brigade possessed almost zero Indian troops. It was mislabelled for operational security.

Specialized training emphasized core skills deemed essential for the new mission of deep penetration with tactics "very different from that used by

³⁶ This followed some preliminary moves in May and June. O.C. Wingate, *Report on Operations of the 77th Indian Infantry Brigade in Burma February to June 1943* (New Delhi: The Manager Government of India Press, 1943), p. 2; Kirby, *India's Most Dangerous Hour*, 244.

³⁷ For Wingate's account of formation and units, see Wingate, *Report on Operations*, 2.

³⁸ Tim Moreman, *Chindit 1942–45*, (Oxford: Osprey Publishing, 2009), p. 9.

³⁹ They also received a commando unit and some RAF signallers. Basil Collier, *The War in the Far East 1941–1945, A Military History* (London: Heinemann, 1969), p. 65.

⁴⁰ McLynn, 83.

⁴¹ Moreman, *Chindit*, 10; Allen, *Burma*, 122. Major Calvert would lead Column 3 during the first operation and, as a Brigadier, the 77th Brigade during the second.

⁴² Moreman, *Chindit*, 13.

⁴³ Allen, *Burma*, 122. Column Six was disbanded and used to replace personnel in the other columns due to illness, training failures, or casualties. See Julian Thompson, *The Imperial War Museum Book of the War in Burma 1942–45* (London: Sidgwick & Jackson, 2002), p. 63.

conventional British and Indian units in the Far East.”⁴⁴ Essential for building well-trained infantry would be “physical hardness and knowledge,” but the specific small-unit skills would not be completely different.⁴⁵ LRPG would still rely on capable small-unit infantry to fight in the jungle, an environment that was “merely infantry fighting in conditions of poor visibility without supporting arms.”⁴⁶ Training began in Patharia and shifted to the Sauger jungle in central India, with vital autonomy from Central India Command which enabled Wingate to lead training “on the tactical and strategic side and Major Calvert on the demolition side.”⁴⁷ Initial endeavours used tactical exercises and sand pits to learn basic infantry skills, attempting to remedy “the mistakes in minor tactics” seen against the IJA earlier in 1942 considered “of the most elementary character.”⁴⁸ The subsequent program followed a, rigorous, eight-week training that emphasized jungle warfare, small-unit techniques, core capabilities, and fitness for cross-country movement.⁴⁹ The training aimed to build a foundation of hardiness supplemented by specialized preparation for the various contingencies that columns might encounter.⁵⁰

Uniquely, the 77th Indian Brigade trained largely independent from GHQ India. It also lacked a single, formal doctrine beyond the theoretical writings of Wingate. Rather, to produce the skills deemed necessary across LRPG, training emphasized jungle marches and resupply. This scenario reflects most of Wingate’s guidance that “long range penetration will prove a dismal failure unless it is conducted from one centre, with one plan, one doctrine one training and one control in the field” while, curiously, ignoring his own recommendation about doctrine.⁵¹ Early stages emphasized living and moving in the jungle, with significant amounts of time committed to acclimatization and self-sufficiency like foraging, navigation, scouting, and patrols.⁵² The core tenet of training was long marches to build

⁴⁴ Moreman, *Chindit*, 12-13.

⁴⁵ Wingate, *Report on Operations*, 3.

⁴⁶ Wingate, *Report on Operations*, 3.

⁴⁷ Wingate, *Report on Operations*, 6; McLynn, 84. Located near Gwalior.

⁴⁸ Wingate, *Report on Operations*, 6.

⁴⁹ Allen, *Burma*, 122-129; McLynn 84-89.

⁵⁰ “The idea was to simulate every contingency the columns might encounter, short of contact with the enemy himself. Wingate believed that human beings underrated the horrors and trials they could endure, and his spartan training programme was accordingly designed to push men to the limit and beyond.” McLynn, 84.

⁵¹ Wingate, *Report on Operations*, 57.

⁵² Moreman, *Chindit*, 14-15; Webster, *Burma Road*, 92.

endurance, mental toughness, physical hardiness, and to practice moving undetected as a column. Specialized training progressed from sections to platoons to columns, repeating drills to inculcate the immediate use of movements for various situations.⁵³ Battle drills included immediate dispersal during a firefight, whether due to unexpected contact or to an engagement going badly, toward a prearranged position away from the enemy.⁵⁴ Others emphasized techniques for patrols, prearranged attacks, booby traps, and river crossings.⁵⁵ Much time was dedicated to learning the new task of coordinating air supply, as well as the old task of how to use pack mules—both vital for the mission. In September, 2,000 members of the eventual 3,000 conducted a five-day brigade exercise,⁵⁶ followed by additional training in October and November to refine jungle tradecraft, and a final brigade exercise near Jhansi in late December.⁵⁷ In January 1943 the 77th Indian Brigade moved alongside the border, technically joining IV Corps but continuing independently to prepare for their upcoming raid into Burma.⁵⁸

Forces and Plans

The mission for Operation LONGCLOTH followed the tenets of LRPG theory: to penetrate IJA defences, to disrupt communications, and to exploit opportunities as they emerged.⁵⁹ Specifically, the operation entailed four goals. First, to destroy the railways near Indaw to cut the Mandalay–Myitkyina line. Second, to divide the IJA 18th and 56th divisions to isolate the 18th Division. Third, to harass the IJA, specifically units of the 18th Division. Fourth and finally, if feasible, to cut the Mandalay–Lashio railway. With these aims, the troops formed seven self-contained columns consisting of 306 to 369 men combined into Northern and Southern groups.⁶⁰ The smaller Southern Group, with columns 1 and 2, aimed to deceive IJA

⁵³ Moreman, *Chindit*, 16.

⁵⁴ Webster, *Burma Road*, 93.

⁵⁵ Moreman, *Chindit*, 17.

⁵⁶ Wingate, *Report on Operations*, 7; McLynn, 89.

⁵⁷ Philip Stibbe, *Return Via Rangoon*. (London: Leo Cooper, 1995), pp. 33, 41-42.

⁵⁸ Positioned at Imphal. Stibbe, 46; Collier, 325; Webster, *Burma Road*, 93.

⁵⁹ Collier, 321.

⁶⁰ Collier, 326. Columns included 306-369 men, approximately 15 horses and 100 mules, as well as four anti-tank rifles, two mortars, two heavy machine guns, nine light machine-guns, and two light anti-aircraft machine-guns. Originally consisting of eight columns total, the sixth disbanded but all kept their original numbering. Southern Group (No. 1) contained group HQ and commander Lieutenant Colonel L. Alexander, with Column 1 (Major Dunlop), Column 2 (Major A. Emmett) and

defenders and distract them from the other group by crossing the Chindwin River one day before the Northern Group and then carrying out several movements to appear a larger attacking force. The bigger Northern Group consisted of the brigade HQ, a group HQ, Burma Rifles HQ, as well as columns 3, 4, 5, 7, and 8.⁶¹ It aimed to destroy the Mandalay–Myitkyina railway at several points which would isolate the two IJA divisions from resupply; to harass forces northwest of Mandalay near Shwebo; and, “if circumstances allowed,” to cut the Mandalay–Lashio railway.⁶²

Of Japan’s four divisions in Burma—the 18th, 55th, 56th, and 33rd—the operation primarily targeted the 18th, located nearby on the road from Taunggyi to Kengtung in the Shan States, and aimed to separate it from the 55th Division.⁶³ Raised from Japan’s southwest in the Kurume Divisional District,⁶⁴ the division was mobilized in 1937 and possessed combat experience from China.⁶⁵ After landing in Malaya on the first day of the invasion and attacking down the peninsula’s east coast,⁶⁶ against Singapore the division “led the Army from start to finish.”⁶⁷ Redeployed to Burma, during the initial invasion the division was in reserve at Sittang Valley then sailed to Rangoon and occupied Mandalay.⁶⁸ By early 1943, the

142 Commando Company (Major J.B. Jeffries). Northern Group (No. 2) included brigade headquarters (BG Wingate), group headquarters (Lieutenant Colonel S.A. Cooke), columns 3 (Major Calvert), 4 (Major Bromhead), 5 (Major Fergusson), 7 (Major Gilkes), 8 (Major Scott), 2nd Burma Rifles (Lieutenant Colonel L.G. Wheeler), and Independent Mission (Captain Herring) which may be considered a human intelligence scout team.

⁶¹ Kirby, *India’s Most Dangerous Hour*, 311.

⁶² Allen, *Burma*, 127.

⁶³ Kirby, *India’s Most Dangerous Hour*, 309.

⁶⁴ *Organization of the Japanese Army* (United States War Department Military Intelligence Division, Far Eastern Unit: 31 January 1944), pp. 5, 9, CARL; *Japanese Recruiting and Replacement System* (United States War Department Military Intelligence Division. Washington DC: July 1945), p. 99, CARL.

⁶⁵ Edward J. Drea, *In the Service of the Emperor: Essays on the Imperial Japanese Army* (Lincoln, Nebraska: University of Nebraska Press, 2003), p. 10, 20. The unit specialized in amphibious assault and had conducted landings near Shanghai before moving to Southeast Asia. According to one planner for operations in Southeast Asia, when stationed previously near Shanghai he assessed “the 18th was a thoroughly reliable fighting division... the division was a very strong and strictly disciplined formation.” Masanobu Tsuji, *Japan’s Greatest Victory Britain’s Worst Defeat* (New York: Sarpedon Publishers, 1997), p. 45, edited by H.V. Howe, translated by Margaret E. Lake, first published 1952 in Japan in slightly different form as *Shonan: The Hinge of Fate*.

⁶⁶ T.R. Moreman, *The Jungle, The Japanese and the British Commonwealth Armies at War 1941–1945: Fighting Methods, Doctrine and Training for Jungle Warfare* (New York: Routledge, 2013), p. 25; Tsuji, 173.

⁶⁷ Tsuji, 171. See also Allen, *Burma*, 133; Collier, 192–193; H.P. Wilmott, *Empires in the Balance: Japanese and Allied Pacific Strategies* (Annapolis, Maryland: Naval Institute Press, 1982), pp. 330–332.

⁶⁸ Allen, *Burma*, 59; Willmott, *Empires in the Balance*, 442; Bill Yenne, *The Imperial Japanese Army: The Invincible Years, 1941–1942* (New York: Osprey Publishing, 2014), p. 282.

division had positioned its three regiments for defence around Indaw, Hukawng Valley, and Myitkyina, using garrisons, forward outposts, and regular patrols.⁶⁹ Since the invasion, the division had fought sporadic engagements almost only against local insurgents. While suffering only limited battlefield casualties, personnel remained vulnerable to disease and the environment, and received few replacements.⁷⁰ It was commanded by Lieutenant-General Mutaguchi Renya, who had experience in China and later would lead Fifteenth Army. Thus, the division may be considered standard for an IJA unit: combat tested with past success but experiencing some erosion of capabilities and readiness related to sustained deployment and limited support.

Operation LONGCLOTH, February–June 1943

On 14 February the LRPB began Operation LONGCLOTH, crossing the Chindwin River at multiple points over four days to enter the IJA-held jungle.⁷¹ As the 1,000-person diversionary Southern Group with columns 1 and 2 progressed toward Kyaikthin, “problems presented themselves almost immediately” when the IJA ambushed the two columns that were attempting to sabotage a train station.⁷² Following initial mishaps and an IJA attack against Column 2 that proved devastating, about half the group had to begin retreating to India.⁷³ Concurrently, during the first few weeks the main thrust of the Northern Group “had been largely successful in evading the Japanese.”⁷⁴ The majority of Northern Group, columns 4, 5, 7, and 8, followed a pre-existing logging trail,⁷⁵ while the 400-member Column 3 would lead the group’s actions for most of the operation. First, Column 3 moved 100 miles overland through the jungle and mountains to the railway line and, in early March, demolished two bridges as well as approximately 70 places along the line.⁷⁶ Separately, Column 4 moved slowly, Wingate relieved the commander, and in early March the column was decisively ambushed by IJA forces while attempting

⁶⁹ Jon Diamond, *1943–44 Chindit Versus Japanese Infantrymen* (Oxford: Osprey Publishing, 2015), pp. 11, 17.

⁷⁰ Diamond, 11, 17.

⁷¹ For specific objectives of each column, see Kirby, *India’s Most Dangerous Hour*, 313.

⁷² Webster, *The Burma Road*, 94.

⁷³ Webster, *The Burma Road*, 94–95; Allen, *Burma*, 128.

⁷⁴ Raymond Callahan, *Burma 1942–1945* (London: Davis-Poynter, 1978), p. 66.

⁷⁵ Webster, *The Burma Road*, 95.

⁷⁶ Moreman, *Chindit*, 40.

to cross a river.⁷⁷ Half the column, assigned to the rear-guard, quickly “fell to panic” as the IJA killed half of the defenders and destroyed most of the communications, causing the remaining fifteen members to retreat into India.⁷⁸ Column 4’s other half pushed east, became lost, and would “struggle back to India, having stumbled hundreds of miles.”⁷⁹ Thus, by late March two columns had been lost but the LRPG had pushed over 200 miles into IJA-held Burma and demolished the railway at several points between Mandalay–Myitkyina, a primary objective.⁸⁰ During these six weeks, the IJA 18th Division first reported instances of invading forces just four days after they crossed the Chindwin, with initial confusion giving way to a clearer picture once assisted by intelligence reports from the nearby 33rd Division.⁸¹

Next the LRPG transitioned to the operation’s second stage as they moved east of the Irrawaddy River to cut the Mandalay–Lashio railway, moving with five of the original seven columns. With nearby IJA forces now alerted, the LRPG had to evade pursuing Japanese as they began crossing the mile-wide Irrawaddy River. Column 3 barely escaped and had to abandon wounded personnel.⁸² Critically, this movement across the Irrawaddy caused columns to depart the jungle and to enter the plains, a dry, hot, open area that exposed LRPG and proved “far less suited” to their tactics.⁸³ It also alerted additional IJA units who worked to confine, trap, and destroy the columns using the nearby road, rivers, and mobile forces.⁸⁴ The 18th Division began to trap the columns now operating in the dry forests, accessible to IJA units by road and track.⁸⁵ With the IJA gaining a better understanding about the invading force from the demolitions in early March and the river crossing a few days later, the Japanese now “planned to confine and destroy the British within the triangle formed by the Irrawaddy on the west, the Shweli River on the east and the roads” in the south.⁸⁶ Reinforced by additional units nearby, the IJA countered with battalion sweeps and regimental manoeuvres to isolate retreating LRPG and forced

⁷⁷ Webster, *The Burma Road*, 96.

⁷⁸ Webster, *The Burma Road*, 96.

⁷⁹ Webster, *The Burma Road*, 97.

⁸⁰ Callahan, *Burma*, 66.

⁸¹ Allen, *Burma*, 133-134.

⁸² Kirby, *India’s Most Dangerous Hour*, 315.

⁸³ Moreman, *Chindit*, 41.

⁸⁴ Kirby, *India’s Most Dangerous Hour*, 318.

⁸⁵ Kirby, *India’s Most Dangerous Hour*, 319.

⁸⁶ Kirby, *India’s Most Dangerous Hour*, 318.

them to divide into smaller units. The result was a scenario where, for the LRPG, “systematic movement became impossible.”⁸⁷

As the IJA continued to pursue the LPRG and the latter struggled to sustain themselves, by late March IV Corps ordered a cease to the operation and the LRPG back to India.⁸⁸ The units dispersed for the return with some splitting as small as 10-man teams, and parts would march, retreat, and evade Japanese forces for the next two months. Most of the units returned to India by early June.⁸⁹ Rather than dividing IJA units to force their withdrawal by increasing and exploiting their vulnerability—as envisioned in the original plan—the LRPG were increasingly isolated and unable to match the IJA battalions armed with greater firepower. With LRPG vulnerable to IJA encirclement, after luring the IJA into attack—as had been planned—it produced the opposite of the desired outcome. The IJA attacks “proved the undoing” of Operation LONGCLOTH.⁹⁰ Of the original 3,000 personnel in the first operation, only 2,200 returned with “most of them unfit for further [LRPG] operations.”⁹¹ Nearly all the animals and equipment were lost.⁹² Soon afterwards the IJA repaired most of the damages, having suffering minimally during the operation.

Evaluating LRPG Failure and Identifying Effectiveness

The operation’s outcome was “an expensive failure.”⁹³ Regarding goals, the units did penetrate IJA-held territory and cut the first railway, but Operation LONGCLOTH delivered few tangible gains and cost many personnel and resources. The operation failed to force IJA units to consolidate, failed to cut the second railway, and failed to harass Japanese defenders to any significant degree. Once crossing the Irrawaddy River into the plains, the LRPG struggled to manoeuvre—supposedly a core tenet of the column and mission—much less deliver any significant damage to IJA infrastructure or units. The IJA largely repaired its lines of

⁸⁷ Allen, *Burma*, 135.

⁸⁸ Wingate, *Report on Operations*, 47.

⁸⁹ Column 7 retreated to China. Wingate, *Report on Operations*, 53.

⁹⁰ John Costello, *The Pacific War 1941–1945* (New York: Harper Collins, 1981), p. 395; William J. Slim, *Defeat Into Victory: Battling Japan in Burma and India, 1942–1945* (New York: Cooper Square Press, 2000), p. 162, unabridged republication of the edition originally titled *Defeat Into Victory* published 1956; Allen, *Burma*, 135.

⁹¹ Callahan, *Burma*, 67.

⁹² Allen, *Burma*, 147.

⁹³ Slim, 162.

communication, and suffered only a “negligible” number of casualties.⁹⁴ The operation “had no immediate effect on Japanese disposition or plans,” and defenders did not consolidate nor withdraw.⁹⁵ In total, the LRPG inflicted “little but transient damage.”⁹⁶ For the IJA, “the counter-measures they had adopted were successful” and forced the LRPG to disperse and retreat.⁹⁷ The IJA and jungle conditions also inflicted a high rate of casualties across the LRPG, making returning troops largely ineffective. The IJA suffered no comparable losses. Exact numbers are unclear, but it seems reasonable to conclude the IJA suffered far less than the LRPG’s 26% casualty rate (and almost all remaining members requiring recuperation). While many supporters praised alleged benefits in morale, propaganda, and insight for the operation,⁹⁸ the reality was that “even Wingate’s own supporters admitted that the operation was a failure.”⁹⁹

British operational effectiveness must be rated as low. The LRPG displayed proficient basic skills and abilities but failed to indicate the coordination or combined effects of complex tactics. Granted, the 77th Indian Brigade’s mission did not entail all the elements required for complex tactics or sophisticated manoeuvre, creating some challenges for applying this measure for effectiveness. However, assessing performance in basic skills reveals how units managed to maintain core combat skills and proficiencies across several battles but struggled when straying from the basics of infiltration and movement. The LRPG proved unable to combine efforts to deliver their intended tactical effects. On the positive side, most units that had retrained in jungle warfare and small-unit skills proved capable of moving in the jungle, an improvement from 1942. Columns 3 and 5 conducted the most significant actions and displayed skills in ambush and planned attacks, notably against the first IJA railway connecting Mandalay with Myitkyina. Throughout the operation, columns generally maintained their core skills and proficiency throughout many arduous days. Yet this must be weighed against the immediate loss of Column 4 when attacked by the IJA near the Chindwin, and the “disaster” of losing Column

⁹⁴ Exact numbers are unclear. Slim, 162.

⁹⁵ Slim, 162.

⁹⁶ Callahan, *Burma*, 66.

⁹⁷ Kirby, *India’s Most Dangerous Hour*, 328.

⁹⁸ Allen, *Burma*, 116; Callahan, *Burma*, 66; Ronald J. Spector, *Eagle Against the Sun: The American War with Japan* (New York: Vintage Books, 1985), p. 348.

⁹⁹ McLynn, 157.

2.¹⁰⁰ Additionally, the brigade's overall abilities may be questioned. In one assessment, when faced by IJA forces the columns struggled in basic dispersal which "more often than not resulted in chaos."¹⁰¹ In addition, several units tended to retreat when faced with small IJA patrols that they "should have easily 'rolled up' following correct jungle-contact drills, and instead dashed off in all directions."¹⁰² The attempt to coordinate Northern Group with Southern Group near the Irrawaddy River may have been the largest disaster of the operation, as it contributed to the subsequent dispersal and withdrawal by fleeing groups of vulnerable soldiers. The forces proved unable to operate after departing the jungle "shelter" in which they had learned to live and operate.¹⁰³ Adaptations in jungle fighting and mobility improved basic skills but the underlying logic of harassing IJA units to force their withdrawal may have been faulty—a core tenet of the LRPG. Units struggled to deliver intended objectives, but even when they did (as seen by columns 3 and 5) then the objectives failed to produce the larger expected results. One result was increased danger in fighting the Japanese, displayed by the IJA trapping and isolating columns east of the Irrawaddy. LRPG proved too small to mass sufficient firepower against the IJA battalions but were too big to escape, forcing their dispersal simply to survive. For the Japanese, they performed the same as in 1942, in an unchanged manner that coordinated actions across two divisions and the larger army to assess the unexpected scenario, to limit the damage it caused, and to expel the LRPG at a minimal loss of life and resources.

Thus, if using a cost-benefit assessment of objectives attained and resources expended then it becomes difficult to disagree with criticisms of the 1943 mission as "achieving nothing of strategic value, suffering heavy casualties (one third of the force deployed) and teaching nothing of specific tactical value to the regular army."¹⁰⁴ Adaptations did address past shortcomings in jungle skills, immobility, and an inability to counter IJA offensive tactics; however, the forces were unable to achieve nearly any of their goals, suffered high costs in their pursuit, and displayed faults in the underlying logic of concepts of the LRPG. The mobile units lost their

¹⁰⁰ Wingate, *Report on Operations*, 31.

¹⁰¹ Thompson, *The War In Burma*, 63.

¹⁰² Thompson, *The War In Burma*, 63.

¹⁰³ Costello, 395.

¹⁰⁴ Moreman, *The Jungle*, 77.

mobility when trapped by IJA responders; the units designed to harass IJA infrastructure proved unable to cause any significant damage; the columns were quickly outmatched when facing IJA firepower; and teams had to disperse in a desperate withdrawal, more closely representing Wingate's "wild goose chase" than any of the Japanese.¹⁰⁵ Therefore, the LRPG must be considered a failure in any measure beyond basic survival. Uniquely, future adaptations seemed to exacerbate these shortcomings.

Figure 6.1: Measuring Adaptation, Effectiveness, Outcome: LRPG First Operation

	WARTIME CHALLENGE	TACTICAL ADAPTATION	OPERATIONAL EFFECTIVENESS	IMPACT ON OUTCOME	OPERATIONAL OUTCOME
GB	JUNGLE FIGHTING	JUNGLE SKILLS	INCREASED; STILL LOW	REDUCED SETBACKS	FAILURE
	IMMOBILE	COLUMNS; AIR SUPPLY			
	INFILTRATION	MOBILITY			
IJA	PENETRATED BEHIND LINES BY LRPG	NONE	NO CHANGE; INTERMEDIATE	REDUCED SETBACKS	SUCCESS

Findings and Relevance

Case Study Assessment: Tactical adaptation before the LRPG's Operation LONGCLOTH contributed to operational failure.

For this case study, hypothesis 1 (H1), central vertical mechanism over decentralized horizontal, is supported. The first LRPG operation suggested how the absence of an external, higher authority to assess new ideas allowed concepts to develop independently within the unit that proved questionable in practice. There was no comprehensive vetting of ideas outside the brigade, and the unit did not participate in any larger, external, formal institutional mechanism for information collection, integration, evaluation, or assessment. After initial resistance in Summer 1942 at GHQ India and "a long wrestle with authority,"¹⁰⁶ once endorsed by C-in-C Wavell then the brigade prepared independently with its core concepts unchallenged

¹⁰⁵ Wingate, "77 Indian Infantry Brigade," 1.

¹⁰⁶ Sykes, *Orde Wingate*, 368.

and essentially unchanged. Without a formal doctrine or any participation in larger doctrinal development,¹⁰⁷ the LRPG trained independently with their own process and without systematic assessment from a higher authority. With of this autonomy, ideas and decisions were considered and disseminated through the brigade commander, with directives addressing specific needs rather than any broader reconceptualization of efforts. This intra-unit process resulted in numerous directives and guidance but continued to reflect unchanged concepts and expectations. Additionally, the brigade exercises in late 1942 unfolded without significant external evaluation, higher assessment, or subsequent revisions. Thus, 77th Indian Brigade disseminated its ideas and concepts without a thorough, comprehensive evaluation process beyond a small number of personnel, and in many instances only one. The resulting adaptations produced some new abilities but, ultimately, a costly failure. The development of LRPG and their first operation indicates a risk arising from authoritative assessments without thorough vetting or external analysis, supporting the hypothesis that a centralized, vertical mechanism may contribute to more effective adaptations.

Hypothesis 2 (H2), anticipation over improvisation, is disputed. Adaptation by the LRPG for Operation LONGCLOTH indicates the risks of anticipation when expectations fail to meet reality. Put simply, planners anticipated wrong. Facing setbacks from IJA offensive tactics and superior jungle movement, the resulting idea of penetration and harassment to erode IJA units and to force their repositioning failed to cause expected outcomes. The result did have a high impact on operational outcome but failed to provide superior perspective, foresight, or collaboration. Not all anticipation was completely wrong; units improved their ability to move in the jungle and fought better than in 1942. However, the units still fought at a low level of effectiveness. Critically, once the LRPG were noticed by the Japanese then the columns struggled to move or to fight. This case may be considered an example of anticipating wrongly when operations are planned without sufficient consideration of likely challenges and probable adversary responses, concentrating instead on possible benefits and hopeful reactions. The LRPG's performance and the subsequent outcome dispute the proposal that anticipatory adaptation is likely to

¹⁰⁷ Moreman, *Chindit*, 12-13.

improve effectiveness and contribute to success due to superior perspective from more information, greater insight and additional foresight.

Hypothesis 3 (H3), skill over technology, comes out as neutral. This case presents a difficult scenario for H3. Technological improvements in resupply and communications enabled the new concept of long-range penetration, but these capabilities remained within the larger idea of harassing columns which failed to deliver significantly increased effectiveness or avoid a costly failure. The larger shifts in reorganization and training had greater impact on performance and outcome—and contributed to many of the challenges. These concepts relied on the technological advancements for basic functions. But the problems and setbacks were caused primarily by the new concepts, rather than the new technological capabilities. Therefore, H3 is rated as neutral.

Figure 6.2: Findings for the First LRPG Operation

Measurement Scale: (+) Affirm \Leftarrow Support \Leftarrow Neutral \Rightarrow Dispute \Rightarrow Contradict (-)

	INVASION 1942	FIRST ARAKAN 1942–43	SECOND ARAKAN 1944	FIRST LRPG 1943	SECOND LRPG 1944	IMPHAL 1944	BREAKOUT 1945
H1: CENTRAL	NEUTRAL	SUPPORT	AFFIRM	SUPPORT			
H2: ANTICIPATE	DISPUTE	DISPUTE	AFFIRM	DISPUTE			
H3: SKILL	AFFIRM	AFFIRM	AFFIRM	NEUTRAL			

Chapter Seven

Maladaptation and Higher Costs: LRPG Special Force, 1943–44

After the first operation in early 1943, the LRPG in 77th Indian Brigade grew to become the 20,000-member Special Force with expanded capabilities and ambitions. The force also experienced substantial adaptation during this period, shifting to aerially-inserted brigades using defensive strongholds to erode IJA forces by using extended positions for deep raids and patrols. However, the new capabilities did not deliver an improved performance or a better outcome. In fact, the changes likely exacerbated setbacks, delivered limited chances for success, and contributed to a failure that was costly in lives, resources, and time. Taken together, these changes and the performance of LRPG in Special Force deliver additional warnings about the risks of tactical adaptation. In particular, Operation THURSDAY indicates costs associated with implementing new ideas during warfare without an authority outside the combat unit to assess them. Therefore, this case suggests the dangers of anticipating wrongly when solutions are inappropriate for meeting operational goals.

Assessment and Change: Strongholds and Mobile Columns to Fight Regiments

During 1943, the LRPG expanded its force and ambitions for a second mission into Burma based on a similar concept but with altered techniques. Rather than ground insertion, the next mission aimed to infiltrate by air using light aircraft, gliders, and transport planes. The purpose also expanded from infrastructure destruction and force reorientation: now LRPG aimed to insert behind IJA lines to establish fortified positions and lure IJA units “into situations where they could be destroyed in detail, making a major contribution.”¹ The expanded mission would eliminate bigger IJA units as they contested territory or force them to retreat by threatening their lines.² To conduct this revised mission, by December 1943 the LRPG had consolidated numerous units in India that lay outside Fourteenth Army and would expand into a

¹ Simon Anglim, “Orde Wingate, ‘Guerrilla’ Warfare and Long-range Penetration, 1940–44,” *Small Wars and Insurgencies*, Vol. 17, No. 3 (September 2006), p. 255.

² Anglim, 257.

six-brigade force with 20,000 members, re-designated the 3rd Indian Division and labelled “Special Force.”³

Personal advocacy and senior endorsement again helped grow the LPRG from a brigade to nearly a corps, along with its more ambitious goals. Wingate advocated for an increased role and relevance for the LPRG, to include his “highly coloured report” on the first operation that “exaggerated his success.”⁴ The report, as well as others about the first operation, interested Prime Minister Churchill who met with Wingate and proved receptive to many of the latter’s expanding ideas about the LPRG. Wingate joined the British delegation for the Quadrant Conference in 1943 where, despite reluctance of some senior leaders about allocating additional resources and personnel, the advocates for LPRG secured support to expand into Special Force.⁵ Now supported by key allies and with authorization from the prime minister, newly-promoted Major-General Wingate travelled to GHQ in August 1943 and began to grow the force.

With the directive to expand, 77th Indian Brigade reformed in August 1943 at Jhansi, where the 111th Indian Brigade also formed.⁶ Critically, Special Force received the 70th British Division in early October. Incorporating this combat-experienced division allowed brigades each to add another infantry battalion and expand from six columns to eight.⁷ Fortunately for Special Force, the 70th British Division commander accepted a demotion to become Wingate’s assistant and

³ The new division included 77th Indian, 111th Indian, 14th British, 16th British, 23rd British, and 3rd West African brigades. In Basil Collier, *The War in the Far East 1941–1945, A Military History* (London: Heinemann, 1969), p. 400. See also Allan R. Millett and Williamson Murray, *A War to be Won: Fighting the Second World War* (Cambridge, Massachusetts: Harvard University Press, 2000), p. 229. Formation approved by Theatre Commander Admiral Lord Louis Mountbatten. This size is larger than the standard Indian Division which normally possessed a full strength of 17,000 personnel. Alan Jeffreys, *The British Army in the Far East 1941–1945*, Battle Orders series number 13 (Oxford, Great Britain: Osprey Publishing, 2005), p. 21. At this time, Special Force was nested within the larger South East Asia Command (SEAC) led by Mountbatten from Delhi, which also included Eleventh Army Group (General Giffard) and Fourteenth Army (Slim).

⁴ Raymond Callahan, “The Prime Minister and the Indian Army’s Last War,” in Kaushik Roy, ed., *The Indian Army in the Two World Wars* (Boston, Massachusetts: Brill, 2012), p. 326; O.C. Wingate, *Report on Operations of the 77th Indian Infantry Brigade in Burma February to June 1943* (New Delhi: The Manager Government of India Press, 1943), p. 2.

⁵ Donovan Webster, *The Burma Road* (New York: Perennial, 2003), pp. 106-108; David Rooney, *Burma Victory: Imphal, Kohima and the Chindit Issue, March 1944 to May 1945*. (London: Arms and Armour 1992), pp. 112-114; Callahan, “The Prime Minister,” 326-328.

⁶ WO 203/4204, Despatch by General Sir Claude J.E. Auchinleck, G.C.B, G.C.I.E., C.S.I., D.S.O., O.G.E., A.D.C., Commander-in-Chief in India covering the period 21st June 1943–15th November 1943, Copy No. 35, 22 November 1945, p. 25, TNA.

⁷ WO 203/4204, Despatch, 25.

cooperated with building the new force.⁸ Finally, the 3rd West African Brigade arrived in India and joined the unit in November 1943.⁹ The organization into columns remained from the first operation, often created by halving battalions with the battalion commander leading one half and a senior major the other.¹⁰ While including various people, the newly-created 3rd Indian Division was “predominantly a British formation, and exceptional for the Burma campaign both in that respect and, remarkably, not including any Indian units.”¹¹

In considering lessons from the first operation and preparing for the second, Special Force never possessed a formal doctrine produced by an entity outside the unit. Internal assessments identified lessons, needs, and proposed significant changes, yet failed to question the underlying assumptions regarding deep penetration. Wingate’s post-operation report concluded that the first mission validated the theory underlying LRPG: it “prevented a number of developments and upset the enemy’s plans.”¹² Also it “demonstrated the power of columns to penetrate as far as they please in enemy-occupied Burma.”¹³ The subsequent conclusion reflected Wingate’s continued advocacy, recommending that “when Long Range Penetration is used again, it must be on the greatest scale possible and must play an essential role in the re-conquest.”¹⁴ With an expanded conceptualization of what could be accomplished by LRPG the growing ambitions for the future also would require broader changes in mission purpose.

The concept of operations evolved to brigade-controlled strongholds supported by mobile columns, aiming to employ defensive tactics for offensive

⁸ Some other officers also dropped rank to join, most notably Brigadier Fergusson who chose to command a column. Rooney, 114.

⁹ WO 203/4204, Despatch, 25. For additional details about the West African Brigade, see Jesse Shaw, *Special Force: A Chindit’s Story* (Gloucester, England: Alan Sutton, 1986).

¹⁰ Julian Thompson, *The Imperial War Museum Book of the War in Burma 1942–45* (London: Sidgwick & Jackson, 2002), p. 232. Special Force temporarily included a U.S. infantry force, the 3,000-member “Merrill’s Marauders” officially named 5307th Provisional Unit, but the American unit was removed long before the second operation.

¹¹ Thompson, 232. For an order of battle see Rooney, 115-116. A short versions: 16th Brigade (Fergusson) with eight columns of British troops; 77th Brigade (Calvert), with twelve columns total, six British and six Gurkha; 111th Brigade (Lentaigne) with four British columns and one Gurkha; 14th Brigade (Brodie), with eight British columns; 23rd Brigade (Perowne) with three regiments, trained as LRPG but removed from the division and Special Force before the second operation; 3rd West African Brigade (Gillmore), with six columns from across the 6th, 7th, and 12th battalions of the Nigeria Regiment.

¹² Wingate, *Report on Operations*, 57.

¹³ Wingate, *Report on Operations*, 57.

¹⁴ Wingate, *Report on Operations*, 57.

effects.¹⁵ The previous mission revealed dangers in attacking IJA defensive positions because when LRPG could not mass sufficient firepower. A conclusion was that “it is foolish to direct attacks against defended enemy positions if by any means he can be hit in the open.”¹⁶ In addition to fighting Japanese units as they manoeuvred in the open, now LRPG would attempt to induce the Japanese “to attack us in our defended positions” and therefore reverse the firepower imbalance seen before by using the new strongholds.¹⁷ Ideally, the strongholds would be forward bases with an airstrip established by two columns and supported by light aircraft, gliders, transport planes, and aerial firepower.¹⁸ The core area would be approximately 500 yards in diameter, supported by a larger defensive scheme and airstrip aligned with local terrain to reduce its accessibility by motor transport and to provide all-around fire.¹⁹ After arriving by air and securing an area, engineers would prepare an airstrip, followed by arrival of the remaining elements of the brigade with artillery, anti-aircraft guns, and a regular infantry battalion for garrison support. Light aircraft could land to evacuate wounded and to deliver minor supplies, but most supplies would still need to arrive by nearby air-drops. Floater columns would patrol the area to detect IJA patrols, as well as to provoke IJA regiments into attacking, ideally through the limited approaches to the base.²⁰ Then, stronghold forces would reinforce the external patrols to fight outside the base. If IJA units reached the base then defenders could assist with additional firepower, luring reinforcements from the division into battle for their destruction.²¹ At these strongholds, about 8,000 men could be inserted to form “a network of larger, more heavily manned and more permanent” bases.²² The stronghold concept was not completely unprecedented; in North Africa during 1941 the British Army used

¹⁵ The term “Stronghold” from Old Testament and quoted in the Special Force training materials: “Turn ye to the stronghold, ye Prisoners of Hope.” O.C. Wingate, “Special Force Commander’s Training Memorandum No. 8, ‘The Stronghold,’” p. 1, 20 February 1944, in Major W.V.H. Martin, 91/9/1, IWM.

¹⁶ Wingate, “Special Force Commander’s Training Memorandum No.8,” 1.

¹⁷ Wingate, “Special Force Commander’s Training Memorandum No.8,” 1.

¹⁸ Anglim, 255-256.

¹⁹ For three diagrams and their supporting notes on Stronghold organization, see Wingate, “Special Force Commander’s Training Memorandum No. 8,” 6-16.

²⁰ Wingate, “Special Force Commander’s Training Memorandum No. 8.”

²¹ Wingate, “Special Force Commander’s Training Memorandum No. 8”; No.1 Air Commando Close Support Forecasts – period 14/25th March, 1944 – Note by Commander Special Force, IWM, cited in Anglim, 256, footnotes 112 and 113.

²² Webster, *The Burma Road*, 107.

fortified positions in a system of boxes each held by a brigade,²³ and in 1942 considered using company-sized boxes with platoons forming a reserve strike force.²⁴ In Burma the strongholds would resemble these boxes but inserted behind enemy lines and resupplied by air.

Inside Special Force, the unit produced numerous reports, directives, and pamphlets regarding lessons from the past and prescriptions for the future. Throughout this process, ideas emerged from within the organization and were disseminated with the authority of the division. The unique nature of long-range penetration meant that some of the “principles and tactics of LRP were simply too specialized and largely irrelevant to regular troops.”²⁵ One result of this internal focus was that Special Force provided “little contribution to the development of doctrine for conventional jungle operations.”²⁶ However, and more important for this examination, this autonomy enabled Special Force to develop ideas with limited oversight or evaluation. Training documents by GHQ India made “surprisingly little reference to LRP methods, except in the most general terms.”²⁷ Instead, Special Force “jealously guarded independence from GHQ India.”²⁸ Lessons remained within the unit without sharing ideas or cooperating with the Directorate of Military Training. Special Force supplemented its own training memorandums with various tactical pamphlets, ranging from general concepts to short training notes. The 50-page commander’s pamphlet on the first operation outlined “the theory and principles” of LRP with subsequent chapters addressing “the column in detail, its day to day routine in operations, and certain special problems that will confront it from time to time.”²⁹ Additionally, the Special Force Commander’s Training Notes aimed “to throw additional light on the various problems in order to stimulate officers to think for themselves, and to obtain a comprehensive grasp of the warfare

²³ Anglim, 256.

²⁴ *Military Training Pamphlet No.52 – Forest, Bush and Jungle Warfare against a Modern Enemy*, in PRO WO 231/126 pp. 24–26, cited in Anglim, 256, footnote 116.

²⁵ T.R. Moreman, *The Jungle, The Japanese and the British Commonwealth Armies at War 1941–1945: Fighting Methods, Doctrine and Training for Jungle Warfare* (New York: Routledge, 2013), p. 9.

²⁶ Moreman, *The Jungle*, 9.

²⁷ Moreman, *The Jungle*, 9.

²⁸ Moreman, *The Jungle*, 9.

²⁹ “Force Commanders Pamphlet on First LRP – Burma,” on cyclostyled copy of Major-General O.C. Wingate’s original Long Range Penetration (LRP) memorandum, undated, written following the 1943 Chindit operations, p. 1, in Major WWH Martin, 91/9/1, item 1, IWM.

they will have to wage.”³⁰ Beginning with a general overview of LRP, their purpose, and concept of operations, the series then addressed specific tactical situations in preparation for the second operation. Topics included bivouac security, weapons, resupply procedures, ambush techniques.³¹ The directives and pamphlets discussed ways to improve procedures as well as some new techniques but failed fundamentally to alter the underlying principles of disrupting the IJA’s rear and communications, now using larger units housed in strongholds to provoke attack.

To implement the revised ideas and to prepare for the operation, Special Force units participated in a 20-week training program in central India during late 1943.³² Training culminated in a three-week exercise in December, “during which we marched 200 miles... swam rivers and carried heavier packs than we ever carried in Burma,” followed by a “large scale conference for all Special Force officers.”³³ Then from December to February, “training was spasmodic, as much time had to be spent on checking arms, ammunition, mule loads, saddlery and equipment,” with rehearsals and “practice firing, several long marches and expeditions through dense bamboo country.”³⁴ For the columns, extra attention was given to coordinating air supply, animal husbandry, and river crossing, but the programme still tended to emphasize individual hardiness and marching. This emphasis would cause some, later, to criticize a dearth of infantry tactics as would be required to fight larger IJA units if lured, as intended, into battle against the strongholds.³⁵

³⁰ *Special Force Commander’s Training Notes No. 1*, Lecture No. 1, General Rules for the employment of Forces of Deep Penetration in modern warfare,” p. 1, undated, in Major WVH Martin, 91/9/1, item 2, IWM.

³¹ *Special Force Commander’s Training Notes No. 2*, Lecture Security in Bivouac, in Martin, 91/9/1, item 3, IWM; *Special Force Commander’s Training Notes No. 3*, Infantry Anti-Tank Projector (PIAT), in Martin, 91/9/1, item 4, IWM; *Special Force Commander’s Training Notes No. 4*, Supply Dropping, in Martin, 91/9/1, item 5, IWM; *Special Force Commander’s Training Notes No. 5*, Supply Dropping Drill, in Martin, 91/9/1, item 5, IWM; *Special Force Commander’s Training Notes No. 6*, Employment of Aircraft with Troops of Deep Penetration, in Martin, 91/9/1, item 7, IWM; *Special Force Commander’s Training Notes No. 7*, The Column in Ambush, in Martin, 91/9/1, item 8, IWM.

³² Thompson, 235; see also Rooney, 115.

³³ Captain N. Durant, transcript of letter to home, p. 2, 80/49/1, Private Papers of Captain N. Durant, IWM. Durant would command the machine-gun platoon of 80 Column, 1st Battalion South Staffordshire Regiment (77th Indian Infantry Brigade) during Operation THURSDAY.

³⁴ Durant letter, 3.

³⁵ Thompson, 236.

While the tactical columns received significant attention during training, at least one staff officer questioned the readiness at headquarters.³⁶ Expansion into Special Force included creating a larger headquarters in Gwalior, near the main training area at Jhansi, with several officers pulled from England where “all our time had been devoted to training for the forthcoming battle in Europe.”³⁷ One result was that “while the columns themselves were well trained and ready to go, the Headquarters organization as a whole was uncertain of exactly what it was supposed to be doing.”³⁸ The “root of the trouble,” as assessed later, was that division leadership “simply didn’t know how to use a large staff.”³⁹ It is unclear to what degree these critiques accurately reflected readiness at the division headquarters or impacted operational performance, but they bear remembering alongside the internal nature of Special Force operational planning. Combined with the lack of an external doctrine from GHQ India and intra-division training materials providing the sole official guidance on preparations, this scenario raises questions about the degree to which ideas being produced within Special Force and the 3rd Indian Division underwent critical review or rigorous examination. Because, by early 1944, Special Force was committed to employing these ideas in battle. It would lure larger IJA units to fight at higher intensity than before. The troops were finally briefed on the operation a few days before the insertions would begin.⁴⁰

Forces and Plans

The operation would be less aspirational than some of the theoretical plans but still it would be quite ambitious. Using multiple brigades from the 3rd Indian Division, Operation THURSDAY aimed to support larger operations in northern Burma by cutting communications of the IJA 18th Division, harassing its rear, preventing reinforcement, and inflicting general damage and confusion.⁴¹ The units would drop behind the Japanese to disrupt lines of communication and any IJA attempt to attack

³⁶ David Noel Hugh Tyacke, extracts from private memoirs, Chapter Six, pp. 2-7, collection Maj Gen David Noel Hugh Tyacke, written [1970–1990], LHCMA.

³⁷ Tyacke, 2.

³⁸ Tyacke, 2.

³⁹ Tyacke, 9.

⁴⁰ Durant letter, 3.

⁴¹ William J. Slim, *Defeat into Victory: Battling Japan in Burma and India, 1942–1945* (New York: Cooper Square Press, 2000), p. 259, unabridged republication of edition originally titled *Defeat Into Victory* published in 1956.

toward Imphal by blocking resupply to 18th Division.⁴² With one overland and three aerial insertions at points surrounding Indaw, the division aimed to cut road and railway lines of communication through three objectives: Indaw, the Mandalay–Myitkyina rail, and the Bhamo–Myitkyina road.⁴³ Specifically, in the first wave, 16th British Brigade would march inland from Ledo, destroying an IJA garrison at Lonkin on the way to Indaw where it would seize the two airfields and establish a stronghold. The 77th Brigade would insert by glider into two landing zones and then march to seize the nearby railway and form another stronghold. The 111th Brigade would fly by glider into two landing zones and move south of Indaw, to protect 16th Brigade by using road blocks and demolitions to prevent Japanese reinforcements from Mandalay.⁴⁴ The 3rd West African, 14th and 23rd brigades would form a second wave to be inserted later, most likely to attack Indaw.⁴⁵ These units also would drop behind the Japanese to disrupt lines of communication and to block resupply.⁴⁶

Operation THURSDAY, February–July 1944

On 10 February the 16th Brigade embarked on the 300-mile march to the Mandalay–Myitkyina railway and to prepare airstrips for the following two brigades.⁴⁷ The first thirty miles “took nine days to cover”⁴⁸ due to difficult terrain, poor conditions, and failing communications.⁴⁹ One column did attack the IJA garrison at Lonkin but “this diversion achieved very little” and it “caused further delay.”⁵⁰ Eventually, 16th Brigade arrived at Indaw and established the “Aberdeen” stronghold, but the late arrival would cause problems for future inter-brigade cooperation.⁵¹ On 5 March the leading 77th Brigade began flying to the landing zones code-named “Piccadilly”

⁴² Rooney, 121.

⁴³ Slim, 267; Thompson, 237.

⁴⁴ Thompson, 238.

⁴⁵ Thompson, 245.

⁴⁶ Rooney, 121.

⁴⁷ Collier, 418.

⁴⁸ Thompson, 239.

⁴⁹ 16 Infantry Brigade Operations in Burma, February – May 1944, in WO 172/4395, 16 British Infantry Brigade HQ, 1944 January, May–December, TNA.

⁵⁰ Rooney, 128.

⁵¹ Louis Allen, *Burma: The Longest War 1941–1945* (London: J.M. Dent & Sons, Ltd., 1984), pp. 330–332.

and “Broadway.” After some initial mishaps,⁵² on the second night large parts of 77th Brigade had arrived and began to construct the stronghold, also to be named Broadway.⁵³ Next, from 6–8 March, 111th Brigade flew 1,200 people and their supplies to Chowringhee.⁵⁴ The 77th Brigade experienced some early success as it constructed and reinforced the Broadway stronghold while sending out columns to attack IJA infrastructure north of Indaw, so that by 13 March the brigade had cut the rail and road communications to the IJA 18th Division as well as to elements of the IJA 31st Division near Kohima.⁵⁵ Next, the brigade began to create a defensive position at Mawlu, to include a landing strip and a drop zone, named “White City.”⁵⁶ Forces moved into positions, which “we were to occupy for the next seven weeks” as defenders had to withstand IJA attacks by units as large as regiment.⁵⁷ Separately, 111th Brigade struggled. Within five days it suffered from a poor river crossing which split the brigade; a supply drop went awry; and the brigade failed to reach its railway objective south of Indaw, preventing support to 16th Brigade.⁵⁸

Having established Aberdeen stronghold on 20 March, members of 16th Brigade quickly moved to attack Indaw.⁵⁹ Concurrently, in late March, the 14th Brigade and 3rd West African Brigade inserted by gliders and transports, with parts of the 14th landing at Aberdeen and moving to attack away from Indaw.⁶⁰ Tired and unsupported, the 16th Brigade attack “proved disastrous” after its leading columns were surprised by IJA defenders on 26 and 27 March.⁶¹ Attackers “blundered into Japanese outposts” and struggled as “16 Brigade turned out to be ill-disciplined and poorly trained and ended up firing on each other during the battle.”⁶² Columns failed to coordinate or to concentrate attacks, resulting in weak assaults conducted piecemeal.⁶³ Units failed to seize the airfields or supply stores, and had difficulty

⁵² Problems during the landings caused by trees, ditches, and overloaded gliders. R.G.K. Thompson, Report on Air Operations 77 Brigade North Burma March 5th to June 25th 1944, in WO 203/1829, 77 Indian Infantry Brigade: Operations in Burma, 1944 February–August, TNA.

⁵³ Rooney, 126.

⁵⁴ Rooney, 126.

⁵⁵ Rooney, 126.

⁵⁶ Collier, 416; Slim, 267. Strongpoint establishment from Allen, *Burma*, 339.

⁵⁷ Duran letter, 6, 9; The 114th Regiment from 18th Division on 21 March. Rooney, 127.

⁵⁸ Rooney, 127.

⁵⁹ Rooney, 128.

⁶⁰ Costello, 464.

⁶¹ Rooney, 129; WO 172/4395, 16 Infantry Brigade Operations, 3.

⁶² McLynn, 287-288.

⁶³ McLynn, 288.

maintaining coherence.⁶⁴ A separate column fought the IJA near Lake Indaw and lost most of its ammunition, heavy weapons, and radios.⁶⁵ A third column reached the airfield east of Indaw but, alone, was too weak. The brigade had to abandon the airfield. Thus, 16th Brigade had failed in the Indaw attack, a critical goal, and the exhausted unit required evacuation.⁶⁶ Special Force had failed to seize the Indaw airfields, to occupy the area, to prevent IJA reinforcements, or to destroy the road or railway south of Indaw.⁶⁷ Aberdeen was abandoned.⁶⁸

Wingate's death on 24 March caused Special Force to change command but the operation continued.⁶⁹ The remaining three brigades roamed near Indaw and fought local engagements but eventually IJA attacks forced the abandonment of White City. On 6 April an IJA Independent Mixed Brigade attacked 77th Brigade by shelling the airstrip and employing infantry assaults, causing six days of "confused battle" as the defenders, attacking IJA infantry, and counter-attackers fought each other.⁷⁰ On 15–18 April the IJA "launched a most determined attack" that penetrated the perimeter, reaching a nearby hill and was barely repulsed.⁷¹ This last IJA attack against White City from the IJA 24th Mixed Brigade saw Japanese penetrate parts of the defences and nearly push deeper.⁷² Fighting ultimately repelled the IJA force but left the 77th Brigade severely weakened.⁷³ Two weeks later the LRPG abandoned White City. In early May, many of the remaining LRPG in 3rd West African, 77th, and 14th brigade moved northward to the "Blackpool" strongpoint near Hobin with

⁶⁴ Collier, 420.

⁶⁵ Rooney, 129.

⁶⁶ Rooney, 130; Slim, 270. The 16th Brigade had to be withdrawn to India, although some remained and shifted under 77th Brigade until 22 April. Diary of Colonel F.O. Cave, 17 April 1943–10 May 1944, p. 87, Document 10558, Private Papers of Colonel F O Cave OBE MC, item 1/11, IWM; WO 172/4395, 16 Infantry Brigade Operations, 5.

⁶⁷ Rooney, 131.

⁶⁸ 3 Ind Div Own Tps SITREP No. 38 to 1900 hrs 7 May, from FOURTEENTH ARMY, in WO 203/138, 3 Indian Division: Situation Reports, 1944 March – July.

⁶⁹ Costello, 465. Wingate was replaced by Major General W.D.A. Lentaigne, who was the 111th Brigade Commander, selected by Fourteenth Army commander William Slim, and Major Masters took command of the brigade. In Slim, 269-270; Thompson, 248. This caused rifts with General Symes, previous commander of the 70th Division.

⁷⁰ 3 DIV OWN TPS SITREP 19 to 1200 hrs 18 APR., in WO 203/138, 3 Indian Division: Situation Reports, 1944 March – July, TNA; quote from Rooney, 135.

⁷¹ Thompson, 256; 3 DIV OWN TPS SITREP 19.

⁷² Thompson, 256.

⁷³ Shaw, 187; see also Rooney, 135.

111th Brigade.⁷⁴ Now with a weakened force and a new commander, this move to Blackpool signalled what “was really the end of the Chindits.”⁷⁵

Before consolidating Blackpool into a full stronghold “the Japanese attacked in strength” with parts of the 53rd Division, which was in the surrounding area as well as nearby Mogaung.⁷⁶ The brigades became increasingly factionalized and, by mid-May, the LRPG “were in considerable disarray” as units failed to cooperate or coordinate.⁷⁷ Over the next few weeks they struggled fighting regular units of the IJA 18th Division near Blackpool which rendered the LRPG “combat ineffective.”⁷⁸ Also, they were “almost out of ammunition and supplies.”⁷⁹ Blackpool was abandoned. Special Force shifted theatre command on 17 May and from that time they were used like standard infantry. LRPG near Mogaung attempted to seize the road bridge in late May, causing 77th Brigade to suffer 130 killed and wounded. Massive airstrikes were required to prevail, and the remaining forces suffered severely from rain and disease.⁸⁰ By the time of the Mogaung attack, previous motivation had been “replaced by a resigned fatalism.”⁸¹ The continued fighting at Mogaung did manage to cut the railway to Myitkyina but it rendered 77th Brigade “no longer an effective fighting force” as it suffered 800 dead and wounded. Afterwards, the unit possessed only about 300 people “who could walk, let alone march.”⁸² Casualties, exhaustion, and weather combined to render the remaining LRPG “not fit to continue operating throughout the monsoon.”⁸³ Special Force finally withdrew 77th Brigade in July 1944. It left the 3rd West Africa Brigade to patrol, and the 111th Brigade to consolidate for future action.⁸⁴

Overall, Special Force suffered approximately 3,606 casualties with 1,034 killed and 2,572 wounded, losing approximately one-fifth of its total strength. In addition, “most of those who survived never fought again” due to sickness and

⁷⁴ Slim, 270.

⁷⁵ Rooney, 136.

⁷⁶ Rooney, 136.

⁷⁷ McLynn, 342, 344.

⁷⁸ Millett and Murray, *A War to be Won*, 230.

⁷⁹ Thompson, 259.

⁸⁰ McLynn, 351.

⁸¹ Durant letter, 17.

⁸² McLynn, 352. Allen, *Burma*, 369.

⁸³ Slim, 280.

⁸⁴ 3730 SITREP from 3 Ind Div to Main & Adv 11 Army Gp, in WO 203/138, 3 Indian Division: Situation Reports, 1944 March – July, TNA.

malnutrition.⁸⁵ The casualties were “out of all proportion to its achievements.”⁸⁶ Special Force would not conduct long-range penetration again.⁸⁷ By early 1945, the Long-Range Penetration Groups ceased to exist.

Evaluating Special Force Failure and Identifying Effectiveness

Operation THURSDAY and the second expedition must be considered a failure. Special Force “failed to produce the results its creators hoped for” as it proved unable to achieve the critical objectives near Indaw, notably securing the airfields.⁸⁸ All the strongholds and blocks had to be abandoned earlier than planned as they proved unsustainable and events unfolded contrary as anticipated in the stronghold concept papers. The goal of eroding the IJA 18th Division and hindering its movement proved unattainable, as multiple brigades—essentially the equivalent of two divisions—delivered no significant setbacks. Rather, the LRPG spent a large amount of time and effort moving, establishing positions, and trying to survive as events occurred differently than planned with problems accumulating and cascading. Only the one brigade achieved its specific objectives, the 77th when it severed the railway and established a stronghold, but it proved unsustainable. The 16th Brigade, unsupported, failed in the critical attack against Indaw’s airfield which had to be abandoned. The 111th Brigade failed to establish an effective block against the IJA. The insertion of the second wave produced no significant improvements. The operation was also costly in lives and resources. Casualties rendered the Special Force units combat ineffective, with over one thousand killed and 2,500 wounded—20% of the force. By the end of the second expedition, the force “was so reduced by casualties and sickness... that its rehabilitation became impossible.”⁸⁹ The personnel performed with “courage and hardihood” but, ultimately, the LRPG were particularly inefficient.⁹⁰ It seems right to conclude that “the results achieved were

⁸⁵ McLynn, 360. The United Kingdom Military Series lists 22 more casualties, in Woodburn S. Kirby, *The Decisive Battles*, History of the Second World War United Kingdom Military Series Volume III, edited by James Butler (Uckfield, East Sussex: The Naval & Military Press Ltd, 2004), p. 527, originally published 1961.

⁸⁶ Thompson, 269-270.

⁸⁷ After consolidating forces and regaining 14th and West African brigades—which remained in Burma through August—Special Force units recuperated in India before disbandment.

⁸⁸ Kirby, *The Decisive Battles*, 444-445.

⁸⁹ Kirby, *The Decisive Battles*, 446.

⁹⁰ Slim, 546.

not commensurate with the resources diverted.”⁹¹ The LRPG failed in their objectives and were inefficient in this pursuit to a point of possible wastefulness.

The 3rd Indian Division’s operational effectiveness during the LRPG’s second expedition was low. The leading 77th Brigade achieved its first objective and fought well, particularly at White City, but it operated largely in isolation as the 111th Brigade struggled and the 16th Brigade failed in the critical attack at Indaw. As preparations necessary for the three-brigade attack failed to occur, setbacks forced the brigades to fight alone or as smaller columns. Almost immediately the 111th Brigade had to split after a failed river crossing, and the 16th Brigade fought only once as a brigade-sized unit—in the disaster near Indaw. Inserting the 3rd West African Brigade and 14th Brigade in mid-March failed to enhance inter-brigade cooperation or the division’s ability to combine effects. Rather, inserting the 14th Brigade created confusion about whether it would support the 16th Brigade (exhausted after marching since February) and this inability to coordinate columns for combined effects likely contributed to the disaster over 26–27 March. Additionally, during this battle (and other instances throughout the operation) many of the units struggled in their basic skills. One example is the 16th Brigade near the airfield, whose columns were surprised by IJA defences and suffered such losses as to require evacuation. As did the 111th Brigade, almost immediately upon insertion. By late March other units were similarly rendered combat ineffective. Many units struggled with basic tactical skills and eventually several lost cohesion, discipline, and core combat abilities.

Thus, Special Force’s effectiveness in the second operation is rated as low. Challenges were compounded by larger setbacks, resulting in the loss of the strongholds and failure to reduce the IJA as intended. More broadly, these shortcomings indicated larger problems regarding adaptation between the first and second operation. Critically, LRPG lost mobility when moving to the new strongholds without gaining the ability to hold the positions and to repel attacking units as desired. This new role for the LRPG rendered them more vulnerable to IJA firepower while also removing one of the basic virtues of an extended patrol or raid—moving speedily and unnoticed relative to the adversary. The IJA could attack

⁹¹ Kirby, *The Decisive Battles*, 446.

the strongholds and repulse Special Force attacks with greater effect than predicted. This deeper problem reflected a larger challenge in adapting into the stronghold concept. Compared with the first operation, it may be argued that the LRPG reduced effectiveness and that their adaptations exacerbated setbacks.

Figure 7.1: Measuring Adaptation, Effectiveness, Outcome: LRPG Second Operation

	WARTIME CHALLENGE	TACTICAL ADAPTATION	OPERATIONAL EFFECTIVENESS	IMPACT ON OUTCOME	OPERATIONAL OUTCOME
GB	IJA FIREPOWER	STRONGHOLDS	LOW	EXACERBATED SETBACKS	FAILURE
IJA	AERIAL INSERTION	NONE	INTERMEDIATE	ENABLED SUCCESS	SUCCESS
	STRONGHOLDS	NONE			

Findings and Relevance

Case Study Assessment: Tactical adaptation by Special Force before the LRPG's second operation contributed to failure.

For this case, hypothesis 1 (H1), central vertical mechanism over decentralized horizontal, is supported. Special Force indicates how the absence of an external, higher authority to assess information allowed concepts to develop independently within the unit and resulted in a costly failure. When expanded into an enlarged division there was no corresponding change in how ideas were created or evaluated. Still, the LRPG lacked any comprehensive vetting of ideas outside the unit and a limited evaluation of ideas within it. Aside from the report after the first operation by Wingate which proposed expanded use of LRPG (without a critical review), all other assessments occurred internally and with limited staff review. Once leaders endorsed the concept for additional operations and expanded the force then 3rd Indian Division continued to issue changes with intra-unit memorandums and directives rather than participate in any larger doctrinal development or assessments outside of the unit. After breaking apart the 70th British Division and incorporating them into Special Force, the units trained independently with their

own processes over 20 weeks that emphasized many methods like 1943: marching and small-unit jungle movement. Once the division commander endorsed the stronghold concept, there was limited external formal review despite receiving a significant increase in personnel, resources, and air assets—something in perpetual short supply. New ideas and decisions were considered and disseminated through the division commander, with lessons (again) addressing specific problems. Thus, Special Force disseminated new ideas and concepts without a thorough, comprehensive evaluation process beyond a small number of personnel, and in many instances only one. The resulting adaptations produced a failure costlier than the first. The LRPG and their second operation indicate the risks of authoritative assessments without thorough vetting or external analysis, supporting the hypothesis that a centralized, vertical mechanism may contribute to more effective adaptations.

Hypothesis 2 (H2), anticipation over improvisation, is disputed. After facing setbacks in the first operation related to insufficient firepower that obliged columns to run away, the resulting solution of strongholds with floater columns proved either incorrect or too difficult to execute. The LRPG still possessed insufficient firepower to battle the larger IJA units and proved unable to hold the positions. Establishing these positions also made the LRPG easier to attack while removing their small-unit manoeuvrability. Likely combined with the problems caused by H1, the lack of external staff to deliver superior insight or foresight, the result did have a high impact on operational outcome; unfortunately for Special Force, it was poor as anticipation failed to provide superior perspective, foresight, or collaboration. The LRPG's performance and the outcome of Operation THURSDAY dispute the proposal that anticipatory adaptation is more likely to improve effectiveness and contribute to success due to increased battlefield perspective from more information, greater insight regarding current developments, and additional foresight regarding operational goals and future actions.

Hypothesis 3 (H3), skill over technology, comes out as neutral. As in the first operation, Operation THURSDAY presents a strange case for H3. The development of aerial insertion for deep penetration behind enemy lines was an impressive achievement. So was the coordination between ground units to create airfields, strongholds, and to land thousands of people, animals, and supplies by plane and glider. However, the concepts of strongholds and LRPG were

fundamentally about developing skills and using existing technological capabilities in new ways. It was the shortcomings in skill—particularly regarding coordination and small-unit abilities—that undermined effectiveness and contributed to failure. The larger shifts in reorganization, expansion, and training had the bigger impact on performance and outcome. Technological developments enabled many of Special Force’s basic functions, but it was the qualitative changes in skill that were responsible for the majority—and most significant—of challenges.

Figure 7.2: Findings for Special Force LRPG Second Operation

Measurement Scale: (+) Affirm \Leftarrow Support \Leftarrow Neutral \Rightarrow Dispute \Rightarrow Contradict (-)

	INVASION 1942	FIRST ARAKAN 1942–43	SECOND ARAKAN 1944	FIRST LRPG 1943	SECOND LRPG 1944	IMPHAL 1944	BREAKOUT 1945
H1: CENTRAL	NEUTRAL	SUPPORT	AFFIRM	SUPPORT	SUPPORT		
H2: ANTICIPATE	DISPUTE	DISPUTE	AFFIRM	DISPUTE	DISPUTE		
H3: SKILL	AFFIRM	AFFIRM	AFFIRM	NEUTRAL	NEUTRAL		

Chapter Eight

Adaptation, Success, and Costs of Inflexibility:

Imphal, March – July 1944

A five-month series of battles across India's Imphal plain during 1944 crippled IJA Fifteenth Army, significantly reduced the Burma Area Army, and dealt IJA forces their largest single defeat of the campaign. During Imphal the BAA failed to gain any of its objectives, lost over half its forces participating in the operation, and opened the path for British-led Allied units to reconquer Burma in 1945.¹ The operation caused over 53,000 IJA casualties and decisively shifted power in the theatre to the Allies, enabling their subsequent overland assault.² During mid-1944, this risky but feasible operation to attack British forces in India and forestall an invasion turned into a disaster as setbacks accumulated and combined to result in comprehensive failure. More broadly, the operational failure led to the regional scenario it was designed to prevent and initiated seventeen months that shattered Japanese forces and rendered the 1944–45 Burma campaign “one of the worst debacles of the Pacific War.”³ What had caused such a failure?

This chapter posits that changes across British forces since 1942 significantly improved their effectiveness by delivering new combat purposes suited to the jungle environment and to counter IJA tactics, while IJA stasis decreased its ability to execute complex tactics and reduced its effectiveness. The resulting imbalance of relative effectiveness, exacerbated by altered force ratios and equipment, led to IJA failure. Additionally, the British had begun to reveal several of these larger changes in Fourteenth Army prior to Imphal during the Second

¹ Ronald H. Spector, *Eagle Against the Sun: The American War with Japan* (New York: Vintage Books, 1985), p. 361.

² IJA Fifteenth Army lost 53,505 casualties from a total force of 84,280; many of the remaining 30,775 suffered from wounds, malnutrition, or disease. Woodburn S. Kirby, *The Decisive Battles*, History of the Second World War United Kingdom Military Series Volume III, edited by James Butler (Uckfield, East Sussex: The Naval & Military Press Ltd, 2004), p. 372, originally published 1961.

³ Allan R. Millett and Williamson Murray, eds., *Military Effectiveness Volume 3: The Second World War*, New Edition (New York: Cambridge University Press, 2010), p. 30, first published in 1988. For Japanese losses, Millett and Murray cite BBKS, Vol. 5, *Biruma koryaku sakusen* (Tokyo, 1967), pp. 271-4; BBKS, Vol. 15, *Inparu sakusen* (Tokyo, 1968), pts. 1-3; BBKS, Vol. 25, *Irawaji kaisen* (Tokyo, 1969), pts. 1-2; BBKS, Vol. 32, *Shittan mei-go sakusen* (Tokyo, 1969), pt. 1; *Showa shi no tenno* (hereafter SSNT) (Tokyo, 1967-75), Vol. 9, *passim*, cited in *Military Effectiveness Volume 3*, 30, footnote 94.

Arakan Encounter but the Burma Area Army failed to change before or during Imphal. While resources would remain important throughout the operation, the critical development was how forces had learned to use existing resources “in fresh ways to achieve more than would have been possible” had the British “clung to conventional methods.”⁴ Thus, during the Imphal operation, British wartime tactical adaptation increased operational effectiveness and contributed to their success; the IJA’s unchanged performance decreased effectiveness and contributed to failure. This case study suggests that if forces are evenly matched in size and equipment then wartime adaptation may deliver critical relative tactical advantages that accumulate into larger operational success. On the other hand, an unwillingness to adapt before operations may cost lives, resources, and risk failure, while additional inflexibility during operations may exacerbate costs and decrease effectiveness. Therefore, examining the Imphal operation suggests some of the benefits of wartime change and costs of inflexibility.

Opposing Forces and Plans

Since early 1943, the IJA in Burma had consolidated its positions and increased forces in accordance with a defensive orientation.⁵ In March 1943 forces reorganized into the Burma Area Army (BAA) with three subordinate armies: Thirty Third Army in the north, Twenty Eighth Army in the south and, the largest, Fifteenth Army in central Burma.⁶ IJA strategic policy remained defensive in 1943 as it reinforced units, and by March 1944 the BAA had increased to seven total divisions with three of them in Fifteenth Army.⁷ The BAA position was strong, but could not be defended indefinitely as the Allied forces gradually prepared to invade from India. Earlier, in 1942, IJA Southern Army considered an operation into

⁴ William J. Slim, *Defeat into Victory: Battling Japan in Burma and India, 1942–1945* (New York: Cooper Square Press, 2000), p. 541, unabridged republication of edition originally titled *Defeat Into Victory* published in 1956.

⁵ Woodburn S. Kirby, *India’s Most Dangerous Hour*, History of the Second World War United Kingdom Military Series Volume II, edited by James Butler (Uckfield, East Sussex: The Naval & Military Press Ltd, 2004), pp. 307-308, originally published in 1958.

⁶ Edward Drea, Mark Peattie, and Hans Van De Ven, eds., *The Battle For China: Essays on the Military History of the Sino-Japanese War of 1937–1945* (Stanford, California: Stanford University Press, 2011), p. 364. The BAA remained within Southern Army headquartered in Hanoi.

⁷ Kirby, *The Decisive Battles*, 473; Alan Jeffreys, *The British Army in the Far East 1941–1945* (Oxford, Great Britain: Osprey Publishing, 2005), p. 74.

Assam, India, and ordered Fifteenth Army to draft plans for a limited offensive.⁸ Now, Fifteenth Army commander Lieutenant-General Renya Mutaguchi, recently promoted from leading the 18th Division in Burma, revived the plans and advocated their implementation to BAA which approved the proposal. So did Southern Army.⁹ The updated *U-Go* operation presented a considerable risk that was judged acceptable since success would forestall the looming British advance, establish a stronger defensive position to protect Japanese assets in Southeast Asia, and possibly incite discontent inside India which would draw Allied resources, manpower, time, and disrupt inter-theatre cooperation.¹⁰ The Imphal plain, several hundred square miles surrounded by jungle-covered mountains and seventy miles from the border, represented the only flat ground between Burma and India which provided a vital staging point for movement in either direction.¹¹ Therefore, losing control of the plain would remove Allied capabilities to mount any major offensive into Burma during the upcoming fighting season. The IJA plan was not infeasible: the BAA possessed “a reasonably accurate picture of the Allied dispositions,” and with a quick success—like all the others the IJA had experienced so far in Burma—the BAA could consolidate gains before the monsoon and thereafter prevent British resupply or reinforcement.¹² Then, the isolated British forces would lack capacity to sustain operations. The danger was that anything other than a quick victory could cause Fifteenth Army divisions to be outnumbered and outgunned on the Imphal plain.¹³ Fifteenth Army planners anticipated three weeks for the operation and allotted supplies accordingly. After that time, forces would rely on captured stores.¹⁴

The BAA planned a twin operation in Arakan where the Twenty Eighth Army would destroy 7th Indian Division to prevent Allied reinforcements from arriving in the Imphal plain, but the sequencing and execution failed. A longer amount of time passed between the two operations than planned since Fifteenth

⁸ Raymond Callahan, *Burma 1942–1945* (London: Davis-Poynter, 1978), p. 130.

⁹ Callahan, 131.

¹⁰ Callahan, 130; Kirby, *The Decisive Battles*, 446; Max Hastings, *Retribution: The Battle for Japan, 1944–45* (New York: Random House, 2007), p. 66, originally published in United Kingdom as *Nemesis: The Battle for Japan, 1944–45* (Harper Press, 2007).

¹¹ Louis Allen, *Burma: The Longest War 1941–1945* (London: J.M. Dent & Sons, Ltd., 1984), p. 193; Slim, 286.

¹² Kirby, *The Decisive Battles*, 446–447.

¹³ Kirby, *The Decisive Battles*, 447.

¹⁴ Allen, *Burma*, 193.

Army required additional preparations, resulting in the two operations unfolding separately. If the Second Arakan Encounter had succeeded, then the separation would not have mattered since the destruction of 7th Indian Division would prevent it from reinforcing at Imphal. The delay also could have even benefitted Fifteenth Army since the Second Arakan Encounter revealed new tactics, techniques, and procedures among British forces. However, Twenty Eighth Army's failure in the Second Arakan Encounter meant that Fifteenth Army would have to be fast in achieving its objectives.

For IJA planners and Fifteenth Army commander Mutaguchi, the Imphal concept of operation depended on surprise, speed, boldness, and unchanged tactics which had "hitherto almost invariably brought them success."¹⁵ Fifteenth Army would cross the Chindwin River and assault into Assam over 150 miles to destroy IV Corps in the Imphal plain, seize vital supplies, and remove the Allies' "springboard for operations into Burma."¹⁶ The plan aimed for 33rd Division to attack from the south against 17th Indian Division in the Chin Hills, and then move southward to Imphal along Tiddim Road as a brigade battle group moved through Kabaw Valley to attacked parts of the 20th Indian Division, also near Imphal. The 15th Division would attack from the east, through the Naga Hills, to cut the key road to Kohima called the Imphal Road, and then attack southward toward Imphal. The 31st Division would move through the Naga Hills to attack further north at Kohima to block IV Corps reinforcements and isolate the Imphal plain, afterwards following the other units at Dimapur and Imphal.¹⁷ In sum, from southwest to northeast: 33rd to Imphal plain, 15th to Imphal Road to sever Imphal from Kohima and isolate the forces, and 31st to Kohima to block the railroad and other transport from India.

¹⁵ The Fifteenth Army commander, Lieutenant-General Renya Mutaguchi, was highly influential in the development of this plan. He was also the only Japanese general with sustained experience in Burma, as no IJA general remained in theatre throughout the Burma campaign. Mutaguchi commanded the 18th Division at Singapore which then moved to Burma, where he became commander of Fifteenth Army. Kenichi Arakawa, "Japanese War Leadership in the Burma Theatre: The Imphal Operation," in Brian Bond and Kyoichi Tachikawa, eds., *British and Japanese Military Leadership in the Far Eastern War, 1941–1945* (Abingdon, Oxon, England: Routledge, 2012), pp. 105-106, originally published in 2004 by Frank Cass; Kirby, *The Decisive Battles*, 449.

¹⁶ Callahan, 132. Distance of front from map in Jeffreys, *The British Army in the Far East*, 75, and text of Meirion Harries and Susie Harries, *Soldiers of the Sun: The Rise and Fall of the Imperial Japanese Army* (New York: Random House, 1991), p. 410.

¹⁷ Srinath Raghavan, *India's War: The Making of Modern South Asia, 1939–1945*. (London: Allen Lane of Penguin Books, 2016), p. 416; Allen, *Burma*, 192-193; Jeffreys, *The British Army in the Far East*, 75.

With an operational plan that was prepared well in advance with specific timetables, Fifteenth Army plans remained unchanged despite the Second Arakan Encounter indicating that British forces had altered tactics. By mid-February, in Arakan the isolated 7th Indian Division was holding its brigades in defensive boxes and repulsing IJA assaults, indicating the potential for aerial resupply to sustain a surrounded unit for at least a few weeks. Both the 5th and 7th Indian divisions indicated an increased capacity for small-unit tactics and basic skills, and “did not quickly succumb to Japanese pressure” in the way units had in 1942—and as the Japanese anticipated in the Imphal plan.¹⁸ Also, since British units could now maintain positions for longer and fight better than before, the IJA expectation of a short campaign supported by seized supplies could prove problematic.¹⁹ Granted, only a few months had passed since British forces began applying the new fighting techniques during the Second Arakan Encounter and the beginning of Imphal so it may be unfair to criticize commanders and planners for failing to assimilate fully the events unfolding and to recognize them as a larger trend or a lesson for the future. However, indications had begun to emerge that Fifteenth Army’s attack plan might face setbacks from new British tactics which the current plan failed to incorporate.

British plans relied on precise sequencing and coordination across IV Corps and Fourteenth Army in relation to IJA movements.²⁰ Once the BAA’s main attack appeared imminent, the first phase entailed a corps-level in-depth withdrawal back from the Chindwin River and Tiddim to Imphal.²¹ Next, defending units concentrated on the Imphal plain would fight from defensive boxes to destroy attacking forces with firepower and reserves.²² After IJA units exhausted themselves

¹⁸ David Rooney, *Burma Victory: Imphal, Kohima and the Chindit Issue, March 1944 to May 1945* (London: Arms and Armour 1992), p. 27.

¹⁹ Rooney, 27. Fifteenth Army carried 21 days’ supplies. Kirby, *The Decisive Battles*, 191.

²⁰ IV Corps, commanded by Lieutenant General G.A.P. Scoones, included the 20th Indian Division led by Major General D.D. Gracey, 23rd Indian Division under Major General O.L. Roberts, the 17th Indian Light Division under Major-General D.T. Cowan, and parts of the 5th Indian Division (after 19 March less the 161st Infantry Brigade with XXXIII Corps). In Kirby, *The Decisive Battles*, 493-496. By early 1944 the forces had fully reorganized as Fourteenth Army led by General Bill Slim, under Eleventh Army Group led by General George Giffard, all falling within South East Asia Command (SEAC) led by Admiral Lord Louis Mountbatten. See Kirby, *The Decisive Battles*, 466.

²¹ Carter Malkasian, *A History of Modern Wars of Attrition* (Westport, Connecticut: Praeger, 2002), p. 109.

²² Malkasian, 109; T.R. Moreman, *The Jungle, The Japanese and the British Commonwealth Armies at War 1941–1945: Fighting Methods, Doctrine and Training for Jungle Warfare* (New York: Routledge, 2013), p. 126, first published 2005.

then a corps counteroffensive would attack with reserves of artillery and armour.²³ In a broad sense, the defensive plan reflected Fourteenth Army's larger conceptual shift to using defensive engagements around pivots to attrit the Japanese when attackers became vulnerable due to their extended lines of communication. IV Corps would concede the initiative to Fifteenth Army by consolidating in the Imphal plain, contracting three divisions dispersed over a 200-mile front.²⁴

The three infantry divisions and tank brigade in IV Corps possessed sufficient readiness to execute the plan. Forward-positioned at Tiddim, 17th Indian Division (under a new commander since the failures in early 1942)²⁵ had reorganized, retrained, and gained small-unit experience in jungle warfare through patrols and small-scale actions.²⁶ The 20th Indian Division, also forward at Tamu and Sittaung, had arrived in 1943 after being created specifically for fighting in the Burma theatre. It benefitted from rigorous pre-deployment training as high as division echelon before gaining more practical experience in India.²⁷ The 23rd Indian Division, the corps reserve located north of Imphal near Kohima and Ukhrul, had spent two years patrolling the Assam–Burma border.²⁸ The 254th Indian Tank Brigade arrived in early 1944 and trained extensively with the 23rd Indian Division for coordinating in jungle conditions.²⁹ Additionally, in early March the 5th Indian Division fighting in Arakan would be relieved and moved to IV Corps area by mid-April.³⁰ Other units from Fourteenth Army and Eleventh Army Group would assist during the defence but, overall, IV Corps would conduct the majority of fighting, particularly in the critical first six weeks.³¹ In late January, IJA reconnaissance in

²³ Moreman, *The Jungle*, 126.

²⁴ Moreman, *The Jungle*, 126.

²⁵ Major General D.T. Cowan commanded 17th Indian Division. Major General D.D. Gracey commanded 20th Indian Division, and Major General O.L. Roberts commanded the 23rd Indian Division. Julian Thompson, *The Imperial War Museum Book of the War in Burma 1942–45* (London: Sidgwick & Jackson, 2002), pp. 140–141.

²⁶ Jeffreys, *The British Army in the Far East*, 43–45; Moreman, *The Jungle*, 126.

²⁷ Jeffreys, *The British Army in the Far East*, 49; Moreman, *The Jungle*, 89.

²⁸ Jeffreys, *The British Army in the Far East*, 50.

²⁹ Moreman, *The Jungle*, 127. See 1st Ind Inf Bde Training Instruction No. 6, 21 Jan. 1944, PRO WO 172/4379, cited in Moreman, *The Jungle*, 127, footnote 69.

³⁰ Kirby, *The Decisive Battles*, 192.

³¹ In March 1944 XXXIII Corps forces were training in India for amphibious operations when slated to support the upcoming defence despite challenges with moving the forces closer to Imphal. XXXIII was assigned to SEAC in late 1943, and in April–July 1944 it possessed the primary fighting groups of 2nd British Infantry Division and 7th Indian Infantry Division. For full order of battle see Kirby, *The Decisive Battles*, 198–200, 245, 498–500.

force began across the Chin Hills and units started to clash with parts of 17th Indian Division.³² By late February, the “two approximately equal forces faced one another, each manoeuvring for the initiative.”³³ The BAA would attack in March.

March 6 to April 19: IJA Attack Repulsed

During the first six weeks of Imphal, British units withstood the critical threat of a large-scale IJA attack by using new tactical abilities. Fifteenth Army attacked on 6 March with speed and depth that quickly disrupted IV Corps plans for the coordinated withdrawal to Imphal by its two forward divisions.³⁴ The Japanese “achieved tactical surprise”³⁵ and shortly thereafter two regiments of the IJA 33rd Division had encircled the 17th Indian Division near Tiddim, cutting its lines of communication.³⁶ The IJA “attacked in front and hooked around behind as usual”³⁷ which quickly endangered the entire unit, and required IV Corps reserves to enable the escape.³⁸ On 7 March IV Corps reoriented stockpiles and began organizing self-contained defensive boxes near Imphal town and the nearby airfields, essential for support as it retreated to the plain.³⁹ The 17th Indian Division initiated multiple defensive boxes while also attempting small-scale counterattacks until 14 March when 63rd Brigade suffered from intense fighting.⁴⁰ The brigade failed to secure a key area overlooking nearby Tiddim Road which was now cut by the Japanese, isolating the division which would need to break the roadblock. The 17th Indian Division began retreating along the Tiddim Road, a “narrow, twisting 160-mile long road to the Imphal Plain,” with additional support from the 23rd Indian Division.⁴¹ But unlike in 1942 and past encirclements by 33rd Division, now the British began to move amidst the heavy fighting, to inflict casualties, to withstand attacks, to clear

³² Thompson, 188-189.

³³ Kirby, *The Decisive Battles*, 187-189.

³⁴ WO 172/4299, War Diary entries for March 1944, 17 Indian Light Division “G Branch,” January–December 1944, TNA; operation start date from Slim, 296.

³⁵ Raghavan, 418.

³⁶ Allen, *Burma*, 195; Kirby, *The Decisive Battles*, 201.

³⁷ Philip Mason, *A Matter of Honour: An Account of the Indian Army, Its Officers and Men* (London: Papermac, 1986), p. 505, originally published in 1974 by Jonathan Cape Limited.

³⁸ Kirby, *The Decisive Battles*, 195, 201.

³⁹ Kirby, *The Decisive Battles*, 192.

⁴⁰ WO 172/4299, War Diary entries 10–14 March.

⁴¹ Moreman, *The Jungle*, 127; Jeffreys, *The British Army in the Far East*, 74.

IJA personnel from positions, and even to destroy Japanese tanks.⁴² The 17th Indian Division fought through roadblocks, established defensive boxes, disbanded them while underway, and moved at a sufficient rate to prevent more substantial, additional roadblocks.⁴³ These new techniques were accompanied by air supply which allowed the 16,000 troops and 2,500 vehicles to move into the Imphal plain and to prepare for the subsequent fighting.⁴⁴ From 20–26 March, IV Corps gained the 5th Indian Division (minus one brigade) as it repositioned from Arakan where it had been fighting in the Second Arakan Encounter.⁴⁵ Eleventh Army Group placed the 2nd British Division under Fourteenth Army as a reserve and added the 7th Indian Division as a mobile reserve in the central front, where it would join 5th Indian Division.⁴⁶ As forces shifted in late March, against IV Corps the IJA “put in a heavy attack and repeated attacks of increasing weight,” but failed to halt the movement while also suffering “very heavy casualties.”⁴⁷

By early April, IV Corps had moved its three divisions onto the central plain and gained reserve support to form a large defensive pivot consisting of several pockets along avenues of approach on a 90-mile arc.⁴⁸ Now with four divisions and one armoured brigade, the corps had reinforced and reoriented itself, but the unit’s position remained vulnerable. IV Corps “was cut off at Imphal,” the 161st Brigade was isolated near Kohima, 2nd British Division was near Dimapur, and all the lines of communication to Assam remained exposed.⁴⁹ Separately, the attacking IJA 15th Division crossed the Chindwin River near Ukhrul, before turning east and blocking the Dimapur-Imphal road at Kangpokpi on 28 March.⁵⁰ By early April, Fifteenth Army cut the last overland link between IV Corps and India, completing its isolation as planned.⁵¹ Then, the 155,000 personnel of IV Corps shifted to aerial resupply and

⁴² WO 172/4299, War Diary entries 20–25 March 1944.

⁴³ WO 172/4299, War Diary entries 26–31 March 1944. Rate of movement estimated according to mileage markers in intelligence summaries and situation reports for the division.

⁴⁴ Moreman, *The Jungle*, 127.

⁴⁵ Graham Dunlop, *Military Economics, Culture and Logistics in the Burma Campaign, 1942–1945* (London: Routledge, 2016), p. 142, originally published in 2009 by Taylor & Francis.

⁴⁶ WO 172/4290, 7 IND DIV Training Directive No. 1, 05 April 1944, p.1, 7 Indian Division “GS,” 1944 January–December, TNA; Kirby, *The Decisive Battles*, 201.

⁴⁷ WO 231/20, Summary of Operations 4 Corps 22–28 MAR, Ukhrul–Imphal Area, Burma: Reports on Operations, 1944 March–April, TNA.

⁴⁸ Moreman, *The Jungle*, 130.

⁴⁹ Dunlop, 142.

⁵⁰ Moreman, *The Jungle*, 128–129.

⁵¹ Moreman, *The Jungle*, 130.

prepared counterattacks.⁵² On 10 April, Fourteenth Army began the counteroffensive, with IV Corps to hold IJA forces south of Imphal, hold Ukhrul to cut IJA lines, and then attack the 15th and 33rd divisions while 2nd British Division (with supporting elements of XXXIII Corps) would hold Kohima and fight the 31st Division.⁵³ From this point forward, the next three months were “confused, bitter, and mainly and infantryman’s war.”⁵⁴ The battles “tended to be along, and for control of, the six main routes” oriented like the face of a clock, and units “outflanked each other and were outflanked in their turn.”⁵⁵ Still, as the BAA and Fourteenth Army battled in close tactical contests during these months, across the region a larger pattern emerged of IJA forces unable to exploit fleeting advantages while the British managed to mitigate the costs of setbacks and counter for small gains that accumulated into larger advantages.

From 7–11 April, the BAA threatened IV Corps headquarters and aerial resupply when an IJA battalion fought, seized, and entrenched on Nungshigum Hill overlooking Imphal. It was the “nearest that any Japanese force larger than a patrol ever got to Imphal.”⁵⁶ The hill’s summit formed a four-mile ridge with linked hills and a plain up to 400 meters wide, accessible only by a steep ascent.⁵⁷ Led by elements of 5th Indian Division, tanks and infantry fought up the hills against the IJA battalion, combining arms—slowly but effectively—to destroy, slowly but effectively, the Japanese positions with fighting as close as five yards apart.⁵⁸ As the tank firepower destroyed defensive bunkers, fighting cleared away the IJA battalion and killed over 250, although the attackers also suffered with “every single tank and infantry officer” killed or wounded.⁵⁹ The IJA regimental commander, observing from nearby, “saw the tanks bury the Japanese alive,” contradicting IJA tenets that tanks could not be employed up the hilly terrain.⁶⁰ The enhanced infantry–armour coordination with disciplined tactical leadership and superior technical skills repulsed “the most dangerous threat” to the plain, and proved “the turning point in

⁵² Moreman, *The Jungle*, 131.

⁵³ Kirby, *The Decisive Battles*, 302.

⁵⁴ Thompson, 192.

⁵⁵ Thompson, 192.

⁵⁶ Kirby, *The Decisive Battles*, 307.

⁵⁷ Allen, *Burma*, 253.

⁵⁸ Thompson, 194–195.

⁵⁹ Allen, *Burma*, 258; Evans and Brett-James, *Imphal*, 223, cited in Allen, 258, footnote 1.

⁶⁰ Allen, *Burma*, 257.

the operations north of Imphal.”⁶¹ Repulsing the IJA from Nungshigum Hill removed a key threat to IV Corps for the operation and halted the IJA’s regimental thrust that threatened communication with forces astride the Imphal–Kohima road.⁶² By 19 April, the repulse at Nungshigum Hill and IJA setbacks nearby at Sengmai necessitated Japanese forces “to adopt a defensive role.”⁶³ At this point the Japanese had lost the initiative, and the BAA would not regain it the rest of the operation. 5th Indian Division transferred responsibility for Nungshigum and Ukhrul Road to 23rd Indian Division, and the latter began clearing the road towards Ukhrul.

Concurrently, to the south near Moreh, 33rd Division’s Yamamoto Brigade Group attacked 20th Indian Division to open the main road to Imphal defended by 80th and 100th brigades, with the 32nd moving to corps reserve.⁶⁴ In late March the 32nd Brigade “held off attacks by tanks and infantry” as it shifted to reserve at Pael, while the 80th and 100th brigades began “a course of battle for the next two months” as forces captured, lost, and recaptured networks of hills.”⁶⁵ From 22–26 March, IJA infantry and tanks attacked 20th Indian Division from multiple directions, with the latter employing indirect fire to repulse attacks and to cover movements to new positions.⁶⁶ The 80th Brigade fought a series of fierce attacks against the parts of the Yamamoto Brigade Group which “from the point of view of firepower” was “the best equipped in the whole of [Fifteenth] Army” due to its artillery and tanks.⁶⁷ On 1 April its 213th Regiment seized a key hill and threatened a nearby road from the position, subsequently repelling six British counterattacks over nine days by an 80th Brigade battalion.⁶⁸ On day ten, for the seventh assault, the battalion called Hurricanes to bomb the hilltops followed by artillery and another infantry assault up the hill.⁶⁹ Now “the whole... top of the hill was blown away” and assaulting forces fought Japanese defenders in hand-to-hand combat and they seized and held the

⁶¹ Kirby, *The Decisive Battles*, 307, 310.

⁶² Allen, *Burma*, 259.

⁶³ Kirby, *The Decisive Battles*, 310.

⁶⁴ The 32nd Brigade moved to corps reserve on 01 April. WO 172/4318, War Diary for April 1944, 20 Indian Division “G Branch,” 1944 January–December, TNA; Kirby, *The Decisive Battles*, 238; Thompson, 196.

⁶⁵ Allen, *Burma*, 211; Kirby, *The Decisive Battles*, 238–239.

⁶⁶ WO 172/4318, Consolidated Report of VCOs & NCOs on the Attack of Shark; WO 172/4318, War Diary for March 1944, 20 Indian Division “G Branch.”

⁶⁷ Allen, *Burma*, 206.

⁶⁸ Kirby, *The Decisive Battles*, 238–239; Thompson, 197.

⁶⁹ WO 172/4318, War Diary entry from 11 April 1944.

area.⁷⁰ Fighting continued for several days as remaining Japanese attacked from both outside and inside the area but failed to re-take it.⁷¹ With 20th Indian Division now responsible for airfields near Palel and holding the area, on 14 April it ordered units to prevent Japanese penetration using defensive boxes “concentrated to withstand ground attack,” as well as patrols and reserves, to hold “to the last man.”⁷² These defences were tested through the end of April as Japanese forces repeatedly attacked using “normal tactics of infiltration round the flanks” but with limited success as defenders combined patrols with firepower to repel IJA assaults.⁷³

Eighty miles north of Imphal at Kohima, outnumbered British defenders withstood the other severe threat to Fourteenth Army by repulsing a sustained divisional attack. On 4 April the IJA 31st Division attacked Kohima to sever the Imphal Road against defenders prepared for a much smaller attacking force.⁷⁴ The (unexpected) large-scale defence fell upon a 2,500-member garrison which organized defences in four boxes along the ridge to fight until relief arrived.⁷⁵ Fighting at Kohima occurred largely isolated from other battles at Imphal but remained vital for the larger outcome since control of the ridge delivered control of the larger pass—the best route between Assam and Burma, to include the key rail network.⁷⁶ Parts of 5th Indian Division’s 161st Brigade flew from Chittagong to Dimapur to support the Kohima garrison under siege, as aerial resupply maintained the small force engaged in close combat that slowly reduced the defensive boxes to one hill.⁷⁷ On 7 April patrols from 161st Brigade first accessed the trapped garrison while also becoming isolated by a Japanese roadblock.⁷⁸ On 9 April parts of 2nd

⁷⁰ W.J.P. Aggett, *The Bloody Eleventh: History of the Devonshire Regiment*, Volume III, 1915-1969 (The Devonshire and Dorset Regiment, 1995), cited in Thompson, 198, footnote 2.

⁷¹ Thompson, 198-199.

⁷² WO 172/4318, 20 Ind Div Op Instr No 32, p. 2, paragraphs 7-8, 20 Indian Division “G Branch,” TNA.

⁷³ WO 172/4318, War Diary entries from 18-30 April 1944. Quote from 28 April.

⁷⁴ Moreman, *The Jungle*, 129.

⁷⁵ The garrison was now under operational control of XXXIII Corps, since 1 April, when XXXIII Corps headquarters opened at Jorhat with operational command of all troops in Kohima and Assam and Surma valleys. Kirby, *The Decisive Battles*, 245, 466. Arthur Swinson, *Kohima* (London: Head of Zeus Ltd, 2015), p. 41, originally published in 1966 by Cassell & Company Ltd, United Kingdom; Moreman, *The Jungle*, 129. XXXIII was assigned to SEAC in late 1943, and in April–July 1944 it possessed the primary fighting groups of 2nd Infantry Division (British) and 7th Indian Infantry Division. In Kirby, *The Decisive Battles*, 245, 466, 500.

⁷⁶ Allen, *Burma*, 228. Rail network assessment from Kirby, *The Decisive Battles*, 328.

⁷⁷ Jeffreys, *The British Army in the Far East*, 77; Kirby, *The Decisive Battles*, 305.

⁷⁸ Thompson, 154.

British Division arrived at Dimapur and took command of operational troops at Kohima, assumed command of all operations around Dimapur–Kohima, began attempts to clear the surrounding area of IJA forces to assist the 161st Brigade, and, ultimately, “to open the [road] to Kohima and to relieve the Kohima garrison.”⁷⁹ For fourteen days IJA forces continued to attack the garrison using frontal attacks in both day and night.⁸⁰ From 11–15 April the 2nd British Division fought through multiple IJA roadblocks to link with 161st Brigade, allowing the division’s 6th Brigade to relieve the isolated 161st and enable it to move toward the garrison.⁸¹ On 18 April the siege ended when 2nd British Division advanced from Dimapur which allowed the 161st Brigade to relieve the garrison.⁸² Japanese attacks continued over the next several days but now defending forces could counterattack the nearby ridges which blocked the road.⁸³ The 5th and 6th brigades began flanking Japanese-held hills, supported by artillery and some tanks, and through early May the units fought IJA defenders in their defensive positions as well as against repeated counterattacks.⁸⁴ With numerous casualties on all sides, this fight culminated “thirty-four days of some of the toughest fighting in the Second World War.”⁸⁵ The IJA threat to the pass was over.

For Fourteenth Army the fighting in April, like the broader Imphal operation, was “not easy to follow.”⁸⁶ 17th Indian Division continued to fight IJA infantry and tanks throughout the month from its three boxes in the Imphal plain.⁸⁷ To the south, two brigades of 20th Indian Division continued to withstand Japanese attacks, encircled IJA units to cut their lines of communication, fought numerous small-unit engagements, captured roadblocks, cooperated with artillery to clear hills of IJA defenders, and seized key terrain.⁸⁸ By mid-April the British forces had

⁷⁹ WO 172/4247, 2 DIV Operation Instruction No. 6, 13 April 1944, 2 DIV Intelligence Summary No. 13, 02 May 1944, p. 1, War Diary entries 1–9 April 1944, 2 British Division “G Branch” 1944 January–July, TNA.

⁸⁰ Slim, 316.

⁸¹ Slim, 316.

⁸² Allen, *Burma*, 238.

⁸³ WO 172/4247, War Diary entries 25–30 April 1944, 2 British Division “G Branch” 1944 January–July, TNA.

⁸⁴ WO 172/4247, War Diary entries 22–26 April.

⁸⁵ Thompson, 180.

⁸⁶ Slim, 296.

⁸⁷ WO 172/4299, 17 IND LIT DIV O.O. No. 11 04 APR 44; War Diary 1–30 April 1944.

⁸⁸ WO 172/4318, War Diary entries for 1–30 April, 20 Indian Division “G Branch” 1944 January–December, TNA.

withstood the IJA's opening assault which severely threatened Imphal, a time when "crises might have slipped into disaster."⁸⁹ Then the situation began to resemble more closely the original battle for which Fourteenth Army had planned.

Thus, by 19 April IV Corps and Fourteenth Army had countered the three critical threats: it withdrew 17th Indian Division from encirclement to the plain, cleared the Nungshigum Hill, the principal IJA threat to the pivot's resupply, and relieved the Kohima garrison to stay connected with India. Other IJA attacks in the east and southeast had slowed and appeared unable to defeat defending forces. By this time, the combination of skilfully retracting IV Corps units into defensive boxes, using counterattacking pivots, consistently applying disciplined core abilities in defence and skilfully coordinating infantry units in attack, particularly with armour to clear IJA defences, had caused sufficient setbacks for Fifteenth Army which prevented it from attaining its objectives. On 20 April, IJA Fifteenth Army commander Mutaguchi visited frontline Japanese units, with an opportunity to halt the operation.⁹⁰ Instead it would continue.

April 20 to July 4: Defeat Becomes Disaster

The second phase of Imphal reflected IJA inflexibility that effectively destroyed Fifteenth Army as a fighting unit. British forces had repulsed the critical threats during the operation's first phase, and now during the second phase the re-opening of the Imphal–Kohima road in late May removed any realistic possibility for Fifteenth Army to achieve its objectives. Yet the IJA would continue to fight. Fifteenth Army, having fired two divisional commanders and soon to fire a third, was ordered to continue operations by Burma Area Army and Southern Army Group.⁹¹ For three more months Fifteenth Army fought with costly attacks against

⁸⁹ Slim, 315.

⁹⁰ Ushiro Masaru, *Biruma Senki* [The War in Burma] (Tokyo: Nihon shuppan kyodo kabushiki geisha, 1953), p. 30, cited in Arakawa, 118-119, footnote 36.

⁹¹ In late May and early June 1944, Burma Area Army commander Kawabe visited Fifteenth Army and its commander Mutaguchi. In late May Fifteenth Army commander Mutaguchi relieved 33rd Division commander Yanagida for being ineffective, and on 6 June the 15th Division commander Yamauchi was relieved due to an illness that would soon kill him. In July, the last of Fifteenth Army's original three divisional commanders, 31st Division commander Sato, would be fired after defying orders of Fifteenth Army. BAA commander Kawabe directed Fifteenth Army to continue fighting, and when he returned to his headquarters the Southern Army Group had sent a message to continue fighting as well. Allen, *Burma*, 264-266; Arakawa, 118.

forces who repeatedly countered with devastating effects. Overall, Fifteenth Army's continued lack of cooperation and unchanged tactics or plans led to a disaster.

By early May the Fifteenth Army attacks around Imphal from multiple directions followed a costly pattern.⁹² Continuous thrusts against the plain followed key routes blocked by British defenders that attackers attempted to infiltrate and outflank. Attacks were fierce but uncoordinated as small units pushed one or two miles deep before being repulsed by counterattacks. Then IJA units positioned themselves in the nearby hills which required clearing slowly.⁹³ Gradually, Fifteenth Army was "worn down by grinding combat, hunger and disease, almost to nothing."⁹⁴ By mid-May the 31st Division (that had failed to seize Kohima) was "being slowly driven from the vantage points," the 15th Division was halted and being forced back, and the 33rd Division was stalled while preparing to re-attack against difficult odds.⁹⁵

Now both Fifteenth Army and IV Corps moved to gain initiative before the monsoon. The IJA 33rd Division was to reattack 17th Indian Division near Bishenpur to break through to the Imphal plain, while IV Corps reinforced the unit with all reserves in order to remove this last threat from Fifteenth Army.⁹⁶ In late May 33rd Division attacked, outflanked defending units, moved behind Bishenpur, and nearly seized the 17th Indian Division's headquarters before the counterattacking 63rd Brigade infiltrated past 213th Regiment and established a position "in the very heart of 33 Division."⁹⁷ The 33rd Division, now with a new commander and supported by a tank regiment,⁹⁸ made some progress and inflicted casualties but the attackers lost too many personnel and the capacity to succeed. By late-May the 33rd Division had acknowledged the unlikelihood of survival and ordered final attacks in a desperate attempt to seize Bishenpur.⁹⁹ Reflecting later, the Fourteenth Army commander considered the attacks "remarkable in their boldness and desperation" but by this

⁹² Slim, 324.

⁹³ Slim, 324.

⁹⁴ Harries and Harries, 407.

⁹⁵ Kirby, *The Decisive Battles*, 353.

⁹⁶ Thompson, 208.

⁹⁷ Allen, *Burma*, 279; Thompson, 212.

⁹⁸ Major-General Tanaka Nobuo became acting commander in May and took full command when promoted to Lieutenant-General in June. Allen, *Burma*, 275. The 14th Tank Regiment was known for fighting in Malaya and Singapore.

⁹⁹ Attack order by the new division commander stated that "it must be expected that the division will be almost annihilated." In Slim, 337.

time there was no realistic chance of breaking through.¹⁰⁰ The division continued to fight through June but with no more success and, ultimately, would become a shell of a unit. By 30 June the 33rd Division had lost 70% of its forces—12,000 people—in 7,000 killed or wounded and 5,000 sick.¹⁰¹ And still the division had to fight back across the Chindwin River.

At Kohima, 2nd British Division spent two months clearing entrenched IJA defenders across the four-mile front while continuously harassed by IJA counterattacks.¹⁰² By early May the Allied forces outnumbered Japanese defenders, and units slowly cleared the bunkers and “very strong defences.”¹⁰³ As British forces reinforced against the 31st Division—a unit now essentially abandoned by Fifteenth Army—attackers infiltrated past defensive positions to capture positions and destroy bunkers using increased firepower.¹⁰⁴ By late May the final clearings by 5th Brigade opened the area east of the Imphal road and outflanked the remaining IJA defenders.¹⁰⁵ From 2–6 June the 31st Division independently withdrew from Kohima with only implicit approval by Fifteenth Army, ending the battle, and the division slowly disintegrated.¹⁰⁶ Soon the retreating personnel “were in headlong flight” as troops discarded weapons and equipment.¹⁰⁷ Over sixty-four days at Kohima the British lost approximately 4,000 personnel compared with 7,000 Japanese, within the larger and ongoing Imphal operation.¹⁰⁸

Separately, the IJA 15th Division fought near Ukhrul and the Imphal–Kohima road against 23rd and 5th Indian divisions but “the weakest link by far in the Japanese encirclement” was battered and “gradually lost cohesion.”¹⁰⁹ In early May the 23rd Indian Division cleared the road toward Ukhrul and “dominated the enemy

¹⁰⁰ Slim, 336.

¹⁰¹ Allen, *Burma*, 284.

¹⁰² WO 172/4247, War Diary for April 1944, British Division “G Branch” 1944 January–July, TNA; Moreman, *The Jungle*, 134.

¹⁰³ WO 172/4247, 2 DIV Intelligence Summary, 1; Allen, *Burma*, 270.

¹⁰⁴ Moreman, *The Jungle*, 139.

¹⁰⁵ Thompson, 185.

¹⁰⁶ IJA 31st Division Commander Sato telegraphed Fifteenth Army that the division was withdrawing for resupply which “surprised” the Fifteenth Army commander, who later sent a telegram in which “he did not order Sato to remain; rather, he implicitly gave approval to Sato’s withdrawal on 2 June 1944.” Arakawa, 119; *Senshi-sosho: Inparu Sakusen* [Series of Military History of World War II: Operation Imphal] (Tokyo: Asagumo Shinbun-sha, 1968) pp. 560–562, cited in Arakawa, 119, footnote 37.

¹⁰⁷ Allen, *Burma*, 362–363.

¹⁰⁸ Thompson, 186.

¹⁰⁹ Moreman, *The Jungle*, 132.

over the whole of the Ukhrul Road sector.”¹¹⁰ IJA 15th Division abandoned attacking and entrenched, shifting to a defensive posture while needing reinforcements.¹¹¹ In response, British attackers hooked around enemy positions to seize the nearby hills and to push out the 15th Division as a threat to the plain. In early June it attempted a final thrust with “the most intensive bombardment put down by the Japanese in the entire Burma campaign,”¹¹² but the 23rd Indian Division held and by the end of June the 15th Division was so reduced it was “a division in name only.”¹¹³ On 23 June the commander was relieved¹¹⁴ while attacking forces “drove a wedge between the two halves of 15 Division and started to annihilate it piecemeal.”¹¹⁵ By early July, the IJA forces at Ukhrul were encircled, isolated, cleared, and “wiped out.”¹¹⁶ Remaining members of 15th Division joined others “in rapid retreat for the Chindwin, covered by small but tenacious rearguards.”¹¹⁷

Identifying Effectiveness and Evaluating IJA Failure

Fifteenth Army’s Imphal offensive provides a clear example of operational failure. First, it failed to achieve any of the objectives. Second, the IJA’s battlefield performance produced high costs in casualties, resources, and time. Fifteenth Army was reduced to 36% of its pre-battle strength after losing 53,505 casualties from a total force of 84,280; “five divisions were destroyed, two more badly mauled,” and the remaining 30,775 personnel were largely of wounded, sick, or malnourished.¹¹⁸ In comparison, the British suffered 16,700 casualties across a larger force.¹¹⁹ Granted, Fifteenth Army’s short timeline of twenty-one days to seize its objectives with limited logistical support increased the difficulty of achieving its goals, but previously IJA units (including several that fought at Imphal) had experienced a

¹¹⁰ Thompson, 196.

¹¹¹ Kirby, *The Decisive Battles*, 332.

¹¹² Thompson, 218.

¹¹³ Allen, *Burma*, 298.

¹¹⁴ During June, Lieutenant-General Yamauchi began disregarding parts of orders from Fifteenth Army, which were often “a flurry of contradictory” ideas. By this time, Yamauchi seemed a bit detached from battlefield events and one assessed that he “was already living in a world of his own.” Also, he was ill. When notified of his transfer on 22–23 June, Yamauchi was “running operations from his bed, and lacked the energy to dispute the transfer.” In Allen, *Burma*, 296–297.

¹¹⁵ Allen, *Burma*, 300.

¹¹⁶ Slim, 349.

¹¹⁷ Slim, 349.

¹¹⁸ Hastings, *Retribution*, 70; Kirby, *The Decisive Battles*, 372.

¹¹⁹ Kirby, *The Decisive Battles*, 372.

comparable rate of success. Additionally, after the initial setbacks in mid-April which caused the original objectives to become unattainable, the subsequent losses in lives and resources proved disproportionately high compared with past IJA operations. It also took five times longer than planned. Measured against the missions assigned, relative expenditures in material and human resources, and time required, Fifteenth Army's Imphal offensive must be assessed as failure.

The battles around Imphal indicated how the balance of effectiveness was shifting to favour Fourteenth Army over the BAA, and how Fifteenth Army capabilities had stalled and reduced during the operation. By the end of the Imphal, the British displayed intermediate effectiveness while Fifteenth Army showed low. However, the clashes had been close; very likely they could have ended differently if not for the new skills and capabilities across British forces. One must not overlook how the initial stages of fighting during late March and early April proved quite close and required the application of significant new skills across multiple divisions within Fourteenth Army to repulse the Japanese attacks. The 17th Indian Division's extrication from encirclement by 33rd Division likely avoided losing a division which would have significantly increased IV Corps' vulnerability. After the Japanese hooked around 17th Indian Division—using the same tactics as two years prior—now defenders overcame setbacks with new techniques. The division implemented defensive boxes, fought through roadblocks with combined-arms firepower, and counterattacked out of the vulnerable position while IV Corps coordinated support from the 23rd Indian Division. The unit executed a fighting withdrawal to the Imphal plain with sufficient capacity to continue fighting alongside the other divisions. At Kohima against the IJA 31st Division, a small garrison withstood a fourteen-day siege while XXXIII Corps coordinated inter-division assistance from the 161st Brigade, which also required assistance from the 2nd British Division. The garrison's tactical defence against IJA infiltration, defensive consolidation on the Kohima hilltop, 161st Brigade attacking to relieve the garrison, and divisional support, all combined to prevent the Japanese from indefinitely severing the resupply route to Imphal. Around Nungshigum Hill, the 5th Indian Division applied infantry and armour in new ways against defenders entrenched on the slopes and hilltops, applying improved small-unit coordination and combined-arms firepower to eliminate the threat to the plain below. In the

south, the 20th Indian Division repulsed numerous attacks by the 33rd Division, the IJA's most heavily-armed unit, cleared defenders entrenched in the hills, and then used defensive boxes to hold the terrain. These initial battles through mid-April critically threatened British forces and if Fourteenth Army had not applied the adapted tactics then the threats may not have been overcome, or at least not without suffering a much greater cost. Thus, across four close, critical battles during the Imphal operation's early stages, Fourteenth Army blocked IJA objectives and rebalanced power in the theatre by using its new capabilities against IJA tactics that had worked so well in the past. Once in the central Imphal pivot, defenders continued to repel Fifteenth Army assaults using the new techniques. In late May and June during repeated attacks and counterattacks, Fourteenth Army consistently counterattacked IJA positions and displayed a new ability to infiltrate and encircle while coordinating tactical assaults into larger operational counterattacks. Overall, this performance indicates increased operational effectiveness across British forces.

For the Japanese, Fifteenth Army initially indicated an ability to execute some elements of complex tactics but, after the critical battles through late April, the stalemate became disaster as army effectiveness shifted to low. Fifteenth Army repeatedly applied unchanged tactics, exacerbated setbacks, and contributed to failure as forces eroded and lost the ability to sustain operations outside one division. At Imphal the Japanese appeared inflexible, unwilling to withdraw after setbacks, and unexceptional in the conduct of operations.¹²⁰ When IJA divisions experienced these setbacks the forces repeated similar mistakes; the common response tended to favour an unchanged method, technique, or procedure, only now applied with greater vigour, conviction, or number of personnel. Although some of the changes by Fourteenth Army were revealed previously in the Second Arakan Encounter, no indications suggest that the larger BAA made any changes in response. Then, during the operation, the BAA and its subordinate Twenty Eighth and Fifteenth armies did not make any significant alterations or adjustments during the Imphal operation. It may be tempting to blame the commanding officers but replacing all three division commanders also failed to cause any significant changes. Precise numbers are unclear, but a significant number of IJA casualties—and

¹²⁰ Millett and Murray, *Military Effectiveness Volume 3*, 30.

possibly a majority—occurred after the initial failures, suggesting some of the costs were associated with applying unchanged tactics and ineffective attacks. According to one researcher, the 33rd Division suffered 13,376 dead during the Imphal operation with 7,500 (56%) of those after June.¹²¹

Forces across Fifteenth Army maintained basic skills and fought well across regiments but struggled to combine divisions or to coordinate inter-division actions appropriately. This limited ability further reduced as fighting continued. As IJA units simultaneously attacked IV Corps in the central Imphal plain, the penetrating thrust proved intense but lacked sufficient concentration to break through, much less deliver an opportunity for exploitation.¹²² Even if one had successfully penetrated defences then it seems unlikely that the damage would be so severe that it could achieve an operational objective. With over a third of the combat forces engaged separately at Kohima, Fifteenth Army applied attacking units piecemeal with little overall coordination and consistently employed unchanged tactics as forces continued to diminish.¹²³ Some forces retreated effectively, notably with members of 33rd Division that continued to fight across the Chindwin River, but large parts of the 31st collapsed.¹²⁴ As fighting continued, cooperation broke down between Fifteenth Army and its divisions.¹²⁵ Fifteenth Army's inability to coordinate actions across divisions caused them to fight alone.

In addition to these challenges of readiness and sustainability, Imphal revealed a new dilemma for the Japanese that would grow in the future: the IJA's relative inferiority in firepower and resulting challenges for small-unit tactics. IJA attackers and defenders revealed sufficient skill to coordinate firepower with movement throughout 1942 and early 1943 but once facing forces supported by armour, artillery, and sometimes airpower, the situations were less tenable. Without effective anti-tank weapons and facing consistently improved armour-infantry coordination, the IJA possessed no true countermeasure other than stout defence and operational reserves—both of which were reducing. As Fourteenth Army refined its ability to use a relatively small number of tanks to support advancing infantry to

¹²¹ Arakawa, 119.

¹²² Slim, 324.

¹²³ Kirby, *The Decisive Battles*, 448.

¹²⁴ Allen, *Burma*, 362-363.

¹²⁵ Allen, *Burma*, 307-309.

within five yards of Japanese defences—as displayed at Nungshigum Hill—the Japanese struggled to respond, and would continue to do so in the future.

Figure 8.1: Measuring Adaptation, Effectiveness, and Outcome: Imphal

	WARTIME CHALLENGE	TACTICAL ADAPTATION	OPERATIONAL EFFECTIVENESS	IMPACT ON OUTCOME	OPERATIOAL OUTCOME
GB	IJA INFILTRATION & ROADBLOCKS	PIVOTS, BOXES, AIR RESUPPLY, COUNTERATTACK,	INCREASED; INTERMEDIATE	ENABLED SUCCESS	SUCCESS
	JUNGLE FIGHTING	PATROLS, ROADBLOCKS			
	DEFENSIVE BUNKERS	COMBINED-ARMS FIREPOWER			
IJA	PIVOT DEFENSES AND BOXES	NONE	DECREASED; LOW	CAUSED FAILURE	FAILURE
	SMALL UNIT INFILTRATION, COUNTERATTACK	NONE			
	ROADBLOCKS & TANKS	NONE			

Findings and Relevance

Case Study Assessment: British tactical adaptation during 1943 resulted in success for Fourteenth Army during the Imphal operation in 1944. The use of unchanged tactics by IJA Fifteenth Army exacerbated setbacks and contributed to failure.

In this case study, hypothesis 1 (H1), central vertical information mechanism over decentralized horizontal, is affirmed. Like the Second Arakan Encounter, the new combat techniques employed at Imphal that increased effectiveness and enabled success relied on larger centralized vertical information mechanisms to collect information, evaluate ideas, and disseminate them with the authority to task subsequent reorganization and training in accordance with the new ideas. With these new ideas, divisions and brigades across Fourteenth Army countered IJA infiltration tactics and roadblocks that had proved so devastating in 1942, fought well through the jungle, used the new pivot system with multiple defensive boxes, repulsed IJA counterattacks, and cleared IJA bunkers. For the IJA, in contrast, Fifteenth Army

employed no formal, central, vertical information sharing mechanism beyond limited unit reporting, and the organization proved unable to counter the new techniques at Imphal. Related closely with H2, British forces outside the battlefield collected information, studied how to respond, and disseminated the lessons, relying on lower echelons to train in the skills necessary for their implementation.

Hypothesis 2 (H2), anticipation over improvisation, is supported. The Imphal operation indicates virtues of anticipation and risks of insufficient improvisation. Allied forces appropriately planned new tactics, prepared for their use, and Fourteenth Army executed them effectively against IJA attackers throughout the operation. While Fourteenth Army experienced losses and challenges, aside from the unexpected force imbalance at Kohima the operation unfolded largely without major setbacks or surprises for the British. Imphal suggests that with a sound plan that requires only minor adjustments then operational success may be attained and disaster averted. Of course, battlefield forces had to act and react quickly to changing circumstances, but the most significant challenges were anticipated before the battle and met throughout the fighting with preconceived tactics. The lesson from Fifteenth Army appears to be a related alternative: when things fail to unfold as expected then the consistent application of unchanged tactics may cause events to transition from defeat to disaster. Inappropriate expectations continued to produce setbacks that exacerbated and grew, inducing greater costs and ultimately destroying the equivalent of a corps. A tentative conclusion from the Imphal operation is that anticipation may be more favourable for exploiting successes, while improvisation may be necessary for reducing costs in setbacks and preventing disaster.

Hypothesis 3 (H3), skill over technology, is supported. British forces trained and retrained extensively during 1943 in the tactics applied during the 1944 operation, with relevance for both the basic and specialized skills displayed. The new abilities to counter IJA infiltration tactics, fight through the jungle, and to counterattack relied almost exclusively on new skills and abilities. The use of defensive boxes, clearing IJA defensive positions, and breaking roadblocks, all employed existing technology with better coordination and more effective application. While additional resources assisted British effectiveness and the IJA's lack of resources eventually limited their capabilities, it was the new employment of these resources which most significantly influenced effectiveness and operational

outcome. Notably, this issue of basic resources displays a challenge underlying H3: the difference between technological advancements and basic resources for routine support and sustainment. The ability for British and IJA forces to sustain combat relied on resupply of core items for daily use such as food, manpower, and ammunition. While not decisive to the operation's outcome, certainly it influenced battlefield performance. This scenario suggests how resources needed continuously by large amounts of people may have less obvious or immediate impact compared with a new weapon system or larger technological advancement but failing to consider their significance may deliver an incomplete understanding of what makes tactical adaptation effective under certain conditions or circumstances. Sustained support may not necessarily deliver new capabilities, but lacking access to routine core items may limit the opportunity to develop them.

Figure 8.2: Findings for the Imphal Operation

Measurement Scale: (+) Affirm \Leftarrow Support \Leftarrow Neutral \Rightarrow Dispute \Rightarrow Contradict (-)

	INVASION 1942	FIRST ARAKAN 1942–43	SECOND ARAKAN 1944	FIRST LRPG 1943	SECOND LRPG 1944	IMPHAL 1944	BREAKOUT 1945
H1: CENTRAL	NEUTRAL	SUPPORT	AFFIRM	SUPPORT	SUPPORT	AFFIRM	
H2: ANTICIPATE	DISPUTE	DISPUTE	AFFIRM	DISPUTE	DISPUTE	SUPPORT	
H3: SKILL	AFFIRM	AFFIRM	AFFIRM	NEUTRAL	NEUTRAL	SUPPORT	

Chapter Nine

High Effectiveness:

Breakout to Meiktila, December 1944—March 1945

From late 1944 to mid-1945, British-led Allied forces would attack from India down central Burma to push Japanese forces out of all critical locations and back to the border with Siam. During this time, Fourteenth Army operations would display a new, high degree of effectiveness using sophisticated manoeuvre as it moved out of the jungle, crossed the Irrawaddy River, and fought across the plains to seize Meiktila and cripple IJA forces in Burma. This breakout operation across three new environments—one anticipated and two not—produced clear operational success and contributed to the IJA's staggering losses in 1945 with more than 40,000 casualties since Imphal.¹ This breakout, exploitation, and pursuit across Burma to isolate and effectively to destroy two IJA armies reflected Fourteenth Army adaptation for devastating effects. However, the fighting lacked significant changes during the operation: "practically all the tactical points" were the same as taught in Indian Army schools.² How did this type of adaptation relate to such an overwhelming success?

This chapter posits that tactical adaptation prior to 1945 enabled British attackers to exploit advantages while exacerbating IJA setbacks from which the Burma Area Army would not recover. The imbalance in small-unit capabilities, particularly the improved British skill combining small-unit, infantry-led firepower, led to British success. Therefore, this case study indicates how wartime change before an operation can enable high effectiveness and deliver a sufficient foundation in concepts and shared practices so that further tactical adaptation is not required during fighting, as long as an adversary does not significantly increase capabilities. In addition, this case reveals challenges for assessing operational effectiveness when a force fails to challenge an adversary at their points of vulnerability, which might

¹ Fighting across the Irrawaddy, Mandalay, and Meiktila cost Japan approximately 13,000 losses and it suffered an additional "perhaps 28,000" during the "final, 'mopping-up' phase." Max Hastings, *Retribution: The Battle for Japan, 1944–45* (New York: Random House, 2007), p. 332, originally published in UK as *Nemesis: The Battle for Japan, 1944–45* (Harper Press, 2007). See also Allan Millett and Williamson Murray, *A War to be Won: Fighting the Second World War* (Cambridge, Massachusetts: The Belknap Press of Harvard University Press, 2000), p. 492.

² *Army in India Training Memorandum, No. 30 War Series December 1945* (Delhi: General Staff India Manager of Publications, 1945), p. 6.

deliver inflated perceptions of abilities by masking weaknesses. Thus, the breakout to Meiktila suggests some of the benefits, risks, and limitations of wartime change.

Opposing Forces and Plans

In late 1944, the Allied strategy for Burma aimed to confront Japanese forces in the country's centre or south to battle and decisively destroy the IJA Burma Area Army (BAA).³ Seizing vital locations would supplement this goal by enabling resupply and isolating Japanese forces. After some reorganization and the creation of a new command structure, Fourteenth Army, with IV Corps and XXXIII Corps, would focus on the upcoming operation through central Burma.⁴ Planners expected IJA forces to fight north of Mandalay on the Schwebo plain between the Chindwin and Irrawaddy rivers.⁵ For the upcoming operation, both corps would cross the Chindwin River and align on the plain to move forwards and to destroy the bulk of IJA forces. IV Corps, with its 7th Indian and 19th Indian divisions, would move through the Sittaung bridgehead, shift to the plain and seize Japanese airfields. XXXIII Corps, organized around the 2nd British and 20th Indian divisions, would cross at the Kalwa bridgehead.⁶ Some of these units were relatively fresh: the 19th Indian Division arrived from India after jungle training, supplementing pre-war preparations for open warfare; the 255th Indian Tank Brigade arrived in October and

³ Louis Allen, *Burma: The Longest War 1941–1945* (London: J.M. Dent & Sons, 1984), p. 391.

⁴ Allied forces reorganized their theatre-level command arrangements and personnel in late 1944. In November they created Allied Land Forces South East Asia (ALFSEA) to be commanded by Lieutenant General Oliver Leese who arrived from Eighth Army. The subsequent changes closed Giffard's Eleventh Army Group. Slim continued to command Fourteenth Army, but the army was separated from its responsibility over XV Corps on the Arakan front, as well as the army's rear area by creating the Lines of Communication Command. It also separated from any Chinese troops. Within Fourteenth Army, IV Corps commander Scoones was replaced by Messervy from the 7th Indian Division in December 1944, while in XXXIII Corps the commander remained Lieutenant General Stopford. Scoones became Commander-in-Chief of Central Command (India). See Allen, *Burma*, 387–388; Basil Collier, *The War in the Far East 1941–1945, A Military History* (London: Heinemann, 1969), p. 430; S. Woodburn Kirby, *The Reconquest of Burma*, History of the Second World War United Kingdom Military Series Volume IV, edited by James Butler (Uckfield, East Sussex: The Naval & Military Press Ltd, 2004), pp. 417–418, 477–478, originally published 1965; Kaushik Roy, *Sepoys Against the Rising Sun: The Indian Army in Far East and South-East Asia, 1941–45* (Boston: Brill, 2015), p. 367.

⁵ William J. Slim, *Defeat into Victory: Battling Japan in Burma and India, 1942–1945* (New York: Cooper Square Press, 2000), p. 382, unabridged republication of the edition originally titled *Defeat Into Victory* published in 1956.

⁶ Slim, 388. IV Corps also included 255th Tank Brigade; XXXIII Corps also included the 254th Tank Brigade and 268th Brigade. As the operation unfolded, additional units would be added.

prepared with the 19th Indian Division while also learning from the 254th Indian Tank Brigade; and the 28th East African Independent Brigade joined Fourteenth Army after “extensive jungle training in Ceylon” followed by combined-arms training at Imphal.⁷ Also, Fourteenth Army mechanized two brigades of the 17th Indian Division.⁸ The plan was good but nothing was certain. Numerically, “the opposing forces in Burma were pretty evenly matched,” and the Japanese were “on the defensive behind the best natural obstacle in Burma with good lines of communication.”⁹ The key development would be how to use these forces in the new environment against IJA divisions operating with modified defensive postures and goals. Few changes had occurred in the IJA units’ purposes, methods, or techniques since Imphal.

As it came to be, the operation would require parts of Fourteenth Army to fight over three environments new to most of the forces: over large open plains, across a major river, and inside a city. By early 1945, most forces had trained primarily—sometimes only—for fighting in the jungle while on foot. Before entering the plains of central Burma, “tanks had... been used essentially as mobile pill boxes and there had been only one serious tank versus tank action—at Imphal.”¹⁰ Compared with the 1943 changes for jungle warfare, engaging IJA defensive bunker systems, or countering Japanese infiltration tactics, the 1945 British tactical practices and concepts underwent limited changes regarding preparations or recommendations about fighting in plains, rivers, or cities. The January 1945 *Army In India Training Memorandum* delivered a one-page discussion about crossing the Garigliano River in Italy, emphasizing the importance of rafting, bridging equipment, engineers, and reconnaissance, but failed to deliver comprehensive recommendations about crossing a major river like the Irrawaddy.¹¹ Broader army recommendations continued to emphasize jungle warfare, particularly

⁷ T.R. Moreman, *The Jungle, The Japanese and the British Commonwealth Armies at War 1941–1945: Fighting Methods, Doctrine and Training for Jungle Warfare* (New York: Routledge, 2013), pp. 171–172, originally published 2005.

⁸ Graham Dunlop, “The Re-Capture of Rangoon, 1945: The Last and Greatest Victory of the British Indian Army,” in Alan Jeffreys, ed., *The Indian Army, 1939–1947: Experience and Development* (Surrey, England: Ashgate Publishing Limited, 2012), p. 153.

⁹ Dunlop, “The Re-Capture,” 153.

¹⁰ Dunlop, “The Re-Capture,” 153.

¹¹ *Army in India Training Memorandum, No. 27 War Series January 1945* (Delhi: General Staff India Manager of Publications, 1945), p. 56.

patrolling of foot, with no substantial discussion about open terrain or mobile operations.¹² Urban warfare was practically undiscussed.

Fortunately for the British, their general concepts and training would provide an appropriate foundation for the upcoming fights despite lacking specific, comprehensive prescriptions regarding the new environments. By early 1945, the British offensive and defensive tactics, especially the emphasis on increased cooperation between the infantry and supporting firepower, would ensure that “very few new points came to light” during the fighting in Burma as the underlying concepts proved fundamentally sound.¹³ By September 1944, the Indian Army recognized the importance of “closest cooperation between the various arms of the service,” but acknowledged that insufficient actions had been taken to learn how it could be conducted: “what is not so clearly understood is how to set about obtaining” inter-arms cooperation.¹⁴ Leaders needed an improved understanding of shared operating concepts and joint planning as low as the platoon level, as well as opportunities to practice together.¹⁵ The larger Indian Army had begun to address these needs at officer training schools, tactical training centres, and the staff colleges, but true proficiency would require shared practical experience.¹⁶ Past events in the Chin Hills revealed new lessons about infantry and tank cooperation, particularly regarding the coordination required in approaching Japanese positions and then closing with them. The process needed to be methodical, with infantry finding locations, tanks approaching under the cover of infantry firepower to destroy outlying positions, and then a second detachment of infantry supported by more tanks (or artillery) assaulting the main position.¹⁷ The main attack would be “a process of taking on one centre of resistance after another at point blank range,” and “was never anything like the nature of a quick blitz.”¹⁸ Eventually, advancing

¹² The eleven Training Notes and Lessons in *AITM* 27 of January 1945: Notes on Patrolling; Patrolling in New Guinea; Terminology— “Covering Patrols”; Intelligence in Jungle Warfare; Sniping—the Enemy and You; Bombing and Shelling Reports; Jungle Warfare Training; Concealment; Notes by a Corps Commander in Italy; What the Brigadier Said [one page about mountain warfare in Italy]; Day and Night Signals for Control of Vehicles.

¹³ *AITM* 30, 6.

¹⁴ *Army in India Training Memorandum, No. 26 War Series September 1944* (Delhi: General Staff India Manager of Publications, 1944) p. 3.

¹⁵ *AITM* 26, 3.

¹⁶ *AITM* 26, 4.

¹⁷ *AITM* 26, 5.

¹⁸ *AITM* 26, 5.

infantry would find the supporting defensive positions and the process would repeat itself as forces then moved to the next position. The key, again, was of “tanks and infantry planning together as they go along” so that the advance progressed with appropriate inter-arms cooperation.¹⁹ In examples of forces conducting assaults not according to these prescriptions, the result was often confusion, casualties, and tactical failure.²⁰

The Indian Army prescribed tactical methods for the use of tanks and recommended units to train in the techniques, but it is unclear to what extent the forces attacking into Burma prepared with them beyond initial training. Many would need to learn as they went along. In some cases, the value of prior combined-arms training proved to be “overestimated” due to personnel turnover and eroded of capabilities.²¹ In other cases during the operation, many “who had no training with tanks, were called upon to work with them with only a very short time,” sometimes only “a day or two.”²² By late 1944, there was still no common doctrine for infantry–tank cooperation,²³ with army training continuing to emphasize jungle fighting.²⁴ Additionally, division commanders were responsible for implementing inter-arms cooperation even though much of the supporting firepower was outside the division.²⁵ Thus, in late 1944, Fourteenth Army possessed general tactical concepts, some codified and some not, that aimed to exploit a superiority in firepower, mobility, and logistics, by destroying the core of Japan’s Burma Area Army in the Schwebo plain.²⁶ The IJA, however, planned to fight differently.

After the Imphal loss, Japan’s Imperial General Headquarters changed priorities with a new focus on defending southern Burma which meant they effectively ceded the north.²⁷ By September 1944 the Southern Area Army similarly altered priorities in Burma by now ordering the BAA to subordinate any plans for northern defence in favour of holding southern Burma to maintain a defensive zone

¹⁹ *AITM* 26, 6.

²⁰ *AITM* 26, 7.

²¹ *AITM* 30, 16.

²² *AITM* 30, 9.

²³ *AITM* 26, 13.

²⁴ *ATM* 27.

²⁵ For example, tank units were outside divisions. *AITM* 26, 13.

²⁶ Millett and Murray, *A War to be Won*, 491.

²⁷ Particularly the south’s rice fields and oil-production to support Japanese warfighting efforts throughout Southeast Asia. Collier, 427.

across Southeast Asia.²⁸ Also, the IJA replaced BAA senior staff and leadership in “a pretty thorough sweep-out, unprecedented in the Japanese Army at such a high level.”²⁹ The new BAA commander, Lieutenant General Hoyotaro Kimura, would prove to be skilled and realistic,³⁰ traits critical for managing the weakened BAA across its three armies.³¹ Fifteenth Army, devastated by Imphal, possessed only 21,000 personnel in three divisions across central Burma; the Twenty Eighth Army’s two divisions were positioned near the Arakan front and Irrawaddy Valley; and the Thirty Third Army operated its two divisions in the northeast.³² The BAA received some additional weapons, tanks, supplies, and reinforcements to join existing divisions, so that “the divisions received about 2,000 reinforcements each.”³³ Most divisions would be much weaker than the prescribed strength of 10,000 men apiece. With this force and new mission, the BAA aimed to destroy invading forces by retreating from the Chindwin River to lure Fourteenth Army into a vulnerable position near the Irrawaddy, trapping isolated and over-extended attackers.³⁴ The IJA referred to the entire operation as the Battle for the Irrawaddy, suggesting a conceptualization of defence around the river.³⁵

In order to slow the Fourteenth Army advance, Kimura and the BAA planned to allow British forces to advance deep into central Burma to strain their lines of communication and then to fight the invaders north of Mandalay as they crossed the formidable Irrawaddy.³⁶ The BAA would cede parts of the northwest plain using light, rear-guard forces to delay the advance while positioning itself east

²⁸ Allen, *Burma*, 390.

²⁹ Allen, *Burma*, 386.

³⁰ Raymond Callahan, *Burma 1942–1945* (London: Davis-Poynter, 1978), p. 154; Hastings, *Retribution*, 319; Slim, 391.

³¹ Millett and Murray, *A War to be Won*, 489; Slim, 391-392.

³² Millett and Murray, *A War to be Won*, 489; Kirby, *The Reconquest of Burma*, 452; Slim, 391-392. IJA 2nd, 44th divisions formed the BAA reserve. Kirby, *The Reconquest of Burma*, 453-454.

³³ Allen, *Burma*, 391. The BAA received 30,000 personnel from June through October but then lost some to other parts of Southeast Asia to result in 2,000 reinforcements per division.

³⁴ Julian Thompson, *The Imperial War Museum Book of the War in Burma 1942–45* (London: Sidgwick & Jackson, 2002), p. 272. Notably, this plan and Kimura’s execution of it ran counter to expectations about Japanese commanders in their operations as well as temperament. The Fourteenth Army commander later noted how “I expected him to conform to type, to be over-bold, inflexible, and reluctant to change a plan once made... he would, I thought, be confident that he could beat me on his own ground... He would see the Chindwin behind us; not the Irrawaddy behind him.” Slim, 379-380.

³⁵ Roy, *Sepoys*, 349.

³⁶ Hastings, *Retribution*, 319.

of the river.³⁷ The BAA defined its specific aims as securing a line linking Lashio, Mandalay, the Irrawaddy south of Mandalay, Yenangyaung, and Rangoon, with “the front of the decisive battle to be on the banks of the Irrawaddy downstream from Mandalay, or the triangle area of the Irrawaddy delta.”³⁸ By late 1944 the BAA positioned the Thirty Third Army, with its 18th and 56th divisions, in the north; the Fifteenth Army, with its 15th, 31st, 33rd divisions, in central Burma near Mandalay and Meiktila; and the Twenty Eighth Army, with its 54th and 55th divisions, in the south surrounding Rangoon and its approaches.³⁹ The 53rd Division remained part of Fifteenth Army, caveated that it might be placed directly under BAA.⁴⁰

Subsequently, these IJA actions required Fourteenth Army to change plans as BAA forces would not fight where anticipated. After some preparatory movements, in November XXXIII Corps moved into the central front and by month’s end Fourteenth Army approached the Chindwin. By late November they had two bridgeheads and, in early December, began to cross with the 20th Indian Division at Kalwa and the 19th Indian Division at Sittaung.⁴¹ Advancing forces fought IJA units in small engagements and encounter battles but as Fourteenth Army progressed it became apparent that the Japanese had repositioned units away from the attackers.⁴² Thus, during the first weeks of December, Fourteenth Army needed to adjust plans to pursue the defenders before the BAA consolidated in southern Burma under protection of the monsoon.⁴³ The new plan aimed to bring battle in southcentral Burma through two stages.⁴⁴ The first would send XXXIII Corps with the 2nd British, 20th Indian, 19th Indian divisions (the latter transferred from IV

³⁷ Slim, 392.

³⁸ Allen, *Burma*, 392.

³⁹ Collier, 428; Allen, *Burma*, 392.

⁴⁰ Allen, *Burma*, 392. By January, Chinese Nationalist forces in northern Burma reopened the Burma Road and then returned to China, releasing all IJA forces to fight British forces now alone for the attack toward Rangoon. Hastings, *Retribution*, 319; Callahan, 154.

⁴¹ Daniel Marston, “The War In Burma, 1942–1945: The 7/10th Baluch Experience,” in Kaushik Roy, ed., *The Indian Army in the Two World Wars* (Boston, Massachusetts: Brill, 2012), p. 277. Commander’s order to move to cross the Chindwin issued on 1 October with the larger offensive ordered to begin on 3 December. Slim, 387, 389.

⁴² As recalled by Fourteenth Army commander: around 5 December he suspected that IJA actions contradicted “the first foundation on which I had built my plan,” and by 12 December he realized that the IJA units were “not going to do what I had expected—fight a major battle north of the Irrawaddy.” Slim, 390.

⁴³ Collier, 431.

⁴⁴ The corps commanders issued updated orders on 20–21 December, although “preliminary moves on verbal orders had already begun.” The corps regrouping would occur on 26 December. Kirby, *The Reconquest of Burma*, 173.

Corps), and the 254th Indian Tank Brigade, to enter the Schwebo area and draw out IJA defenders. IV Corps would travel 200 miles south with the 7th Indian and 17th Indian divisions, 255th Indian Tank Brigade, and 28th East African Brigade, moving down the valley and toward the Irrawaddy at Pakokku. Then in the second stage, XXXIII Corps would cross the Irrawaddy in a feint toward Mandalay to lure “the greatest possible concentration” of IJA units, while IV Corps would cross the Irrawaddy at Pakokku to breakout from the bridgeheads and make a decisive thrust to seize Meiktila. Control over the city would sever the line of retreat for IJA Fifteenth and Thirty Third armies, isolating them from Rangoon.⁴⁵ Finally, after fighting in central Burma to destroy the two IJA armies, Fourteenth Army would need to seize a southern port for resupply and sustainment throughout the upcoming months.⁴⁶ With these new plans, Fourteenth Army began to pursue the BAA. It also began its shift to the plains.⁴⁷

To the Plains, December 1944–January 1945

Fourteenth Army enacted no major tactical adaptations as it shifted from the jungle to the plains, instead adjusting existing practices to meet the slight Japanese resistance that did not present a significant challenge to British forces or their operating concepts. As units crossed the Chindwin River and moved from their bridgeheads to begin Fourteenth Army’s broader shift into the Burmese plains, the open terrain allowed for a quicker rate of movement as did the lack of resistance. During this time, IJA Fifteenth Army delivered rear-guard efforts to delay and harass advancing units but without defending the jungle-covered hills and ridges east of the river.⁴⁸ The leading 19th Indian Division moved through the difficult terrain and advancing units began to move into central Burma with its “low hills and flat level plain, hot and dusty.”⁴⁹ Division headquarters encouraged personnel to

⁴⁵ Collier, 431; Slim, 393. Meiktila was the administrative centre of Fifteenth and Thirty Third armies. It included supply bases, support services, airfields, and was a key transit hub for the road and rail network that connected the southern routes before they expanded northwards.

⁴⁶ Kirby, *The Reconquest of Burma*, 165.

⁴⁷ WO 203/314, Outline of ALFSEA Operations from the Opening of the Burma Road in Jun ’44 Until the Capture of Rangoon in May ’45, pp. 4-5, Burma Operations: Short Histories, 1945 March–May, TNA.

⁴⁸ WO 172/6894, 1–31 January 1945, 1–31 March 1945, 4 Corps Operation Instruction No. 119, 4 Corps HQ “G Branch,” 1945 January, March, TNA; Moreman, *The Jungle*, 183.

⁴⁹ Allen, *Burma*, 397; Hastings, *Retribution*, 319.

keep learning in order to “profit from our experiences” while also acknowledging that mistakes had occurred but no radical change in tactics was recommended.⁵⁰ Rather, personnel with recent battlefield experiences should “graft it on to all the training we have gone through.”⁵¹ IV Corps continued to prescribe infiltration and blocking movements against the IJA rear-guards, locating units through reconnaissance patrols, and then applying overwhelming firepower as infantry moved to kill or capture the remaining personnel.⁵² Leadership labelled this process the “‘earthquake’ technique,” indicating the growing advantages of Allied firepower over IJA defenders as the frontlines shifted into more open terrain. After passing through the tall grass and banana fields, units began to use the larger fields of fire, open terrain, and improved manoeuvrability against IJA rear-guards.⁵³ This lack of IJA resistance at the Chindwin River enabled Fourteenth Army to overcome a moment of vulnerability without suffering serious setbacks or costs, and to continue relatively unopposed into terrain that would prove more conducive for mobility, larger formations, and firepower.

Initially, poor roads and long distances limited the usefulness of tanks, compared with “far greater and more effective use of supporting artillery, now encountering little difficulty in finding suitable positions to deploy.”⁵⁴ However, fighting remained limited due to the light opposition; the BAA “never had any intention of making Schwebo a last-man last-round battle” as they had already begun withdrawing to the Irrawaddy.⁵⁵ Additionally, this re-posturing southward would require fighting further inland than anticipated, so the pursuing forces would have to push farther and faster to prevent stalling in southcentral Burma without resupply.⁵⁶ XXXIII Corps pushed its three divisions into the Schwebo plain and seized the region by mid-January, still using company-level infantry techniques that, again, demonstrated how “the days of frontal attacks, except when unavoidable, had

⁵⁰ WO 172/6996, Special Order of the Day by Major General Rees to All Ranks of 19th Indian Division, 13 January 1945, p. 1, 19 Indian Division HQ “G Branch,” January–December 1945, TNA.

⁵¹ WO 172/6996, Special Order of the Day, 1.

⁵² WO 172/6894, 4 Corps Operation Instruction No. 119, 2-3.

⁵³ Therefore, challenging claims that British units departing the jungle “quickly abandoned tactical methods employed in the jungle.” Moreman, *The Jungle*, 183; G. Mathews, *The Reconquest of Burma* (Aldershot: Gale and Polden, 1966), p. 70, cited in Moreman, 183, footnote 38.

⁵⁴ Moreman, *The Jungle*, 184.

⁵⁵ Allen, *Burma*, 401.

⁵⁶ Kirby, *The Reconquest of Burma*, 163; Collier, 431.

long gone.”⁵⁷ In late January the Fourteenth Army made its final movements toward the Irrawaddy, and the lead units received additional motor vehicles from nearby units to move quickly across the dry belt after crossing the river.⁵⁸ More serious clashes would occur at the bridgeheads.

Crossing the Irrawaddy River, January–February 1945

Over five weeks Fourteenth Army crossed the Irrawaddy River in a complicated endeavour that enabled it to trap and, eventually, to shatter the BAA. Forces had to move across “an alarming obstacle” at multiple locations averaging 2,000 yards wide that required crossers to manoeuvre around islands and sandbanks in “the longest opposed river crossing” of the Second World War.⁵⁹ In executing this enterprise, Fourteenth Army benefitted from skilful planning, good staff work across the army’s two corps, and Japanese resistance that failed to exploit vulnerabilities to push attackers off their bridgeheads.

Senior planning, staff work, and “careful and comparative study during the weeks preceding the crossing” produced accurate assessments and contributed significantly to preparations for a successful crossing.⁶⁰ The combination of corps and division staff planning would prove critical. Division planning teams were supported by corps staff,⁶¹ and as forces approached the river “daily planning conferences had been held at IV Corps headquarters and later divisional headquarters, when the most thorough instructions were issued for the crossings.”⁶² While some forces had conducted water training months before the crossing, it remained fairly limited in that it “was mainly concerned with improvised methods of taking jeeps, guns, etc., over ‘chaungs’ and the equipment was not available for training in handling standard equipment.”⁶³ Despite recognizing the need for more specialized training, the combination of operational necessities and physically moving units meant that “co-ordinated training was not possible and each arm had

⁵⁷ Thompson, 280. Fighting also saw the 2nd British Division fight the same adversary from Kohima, the (reconstituted) 31st Division. Allen, 401.

⁵⁸ Kirby, *The Reconquest of Burma*, 181.

⁵⁹ Hastings, *Retribution*, 325; Thompson, 297.

⁶⁰ *AITM* 30, 13.

⁶¹ *AITM* 30, 13.

⁶² Slim, 423.

⁶³ *AITM* 30, 16

to train itself more or less independently.”⁶⁴ This lack of specialized training and passage of time since previous general training meant that forces were not highly prepared and could be vulnerable during the crossings.⁶⁵

Like the transition out of the jungle, British divisions conducted no major tactical changes as they crossed in the face of Japanese resistance that failed significantly to challenge forces or their operating concepts. The combination of effective planning and limited resistance enabled crossers to establish bridgeheads and then use small-unit combined-arms firepower to repulse Japanese counterattacks against a critical vulnerability of the British—the need to consolidate the seized bridgeheads and expand them into a larger area of control. The northern feint with XXXIII Corps succeeded in establishing its bridgeheads and repulsing IJA attackers using established tactical practices. In January the 19th Indian Division created two beachheads on the east bank and began to move out on 11 February which started to draw IJA forces north.⁶⁶ Leading elements of the 19th Indian Division approached the river’s west bank on 9 January, pushed IJA defenders from the hills and established a small position across the Irrawaddy, with a second position established further south five days later.⁶⁷ IJA forces from the nearby 15th and 53rd divisions responded, to include “hurriedly assembled tanks and artillery,” and for the next three weeks harassing Japanese attacks slowly battled the British as they consolidated on the bridgehead and pushed outward in patrols.⁶⁸ This reinforced position repelled the first significant attack against the bridgehead on 22 January as well as the more determined attack on 30 January against 63rd Brigade, after which the IJA shifted to suppressing the position with artillery.⁶⁹ These IJA attacks reflected a larger desire to neutralize the bridgehead before they could expand, but responders were too little too late. By the end of the month 19th Indian Division had retained the bridgehead and repulsed the IJA 51st Regiment from another at Kawbet. The IJA 15th Division lost “about one-third of its already depleted strength,” and the

⁶⁴ *AITM 30*, 16

⁶⁵ *AITM 30*, 16.

⁶⁶ Hastings, *Retribution*, 320; Kirby, *The Reconquest of Burma*, 255, 258.

⁶⁷ WO 203/314, Burma Operations: Short Histories, entry from January 1945, p. 6, 1945 March–May, TNA; Moreman, *The Jungle*, 186.

⁶⁸ Moreman, *The Jungle*, 186.

⁶⁹ Moreman, *The Jungle*, 186.

53rd Division “suffered severe casualties.”⁷⁰ In early February the 20th Indian Division crossed near Myinmu and began assembling a large bridgehead for the corps’ right flank that struck between the IJA 31st and 33rd divisions.⁷¹ The subsequent counterattack included “suicide attacks by two battalions” that saw the 33rd Division lose “953 men out of 1200.”⁷² By late February, “identifications of no fewer than thirteen Japanese battalions belonging to four different divisions (2nd, 31st, 33rd and 53rd) had been obtained” in the attacks against the 20th Indian Division’s bridgehead.⁷³ The 2nd British Division crossed in late February near Ngazun, sequenced after 20th Indian Division due to a shortage of boats and rafts, deepening the bridgehead to over four miles wide and two miles deep.⁷⁴ After overcoming “a perilous crossing” due to opposing IJA firepower and some initial mistakes, the division placed two brigades across the river.⁷⁵ Fighting in early March to expand the positions “was chiefly characterized by fanatical attacks on tanks by individual soldiers” that failed to prevent the consolidation.⁷⁶ The 2nd British Division finished crossing by 5 March.

Further south near Pakokku, the main thrust of IV Corps advanced and crossed the Irrawaddy largely unopposed. Well-planned and benefitting from BAA attention focused further north, units attained objectives and any setbacks did not cascade into more-costly shortcomings. After beginning its advance on 19 January, by early February the IV Corps moved from the west side of the Chindwin and began crossing the river with its two divisions and tank brigade for the main thrust to Meiktila.⁷⁷ With Japanese attention drawn to XXXIII Corps and without a

⁷⁰ Kirby, *The Reconquest of Burma*, 187.

⁷¹ Moreman, *The Jungle*, 187.

⁷² Allen, *Burma*, 414.

⁷³ Kirby, *The Reconquest of Burma*, 262.

⁷⁴ Hastings, *Retribution*, 320; Kirby, *The Reconquest of Burma*, 263.

⁷⁵ Allen, *Burma*, 414-415.

⁷⁶ Kirby, *The Reconquest of Burma*, 263.

⁷⁷ To remind, the 7th Indian Division was to cross and create a landing zone, the 17th Indian Division and 255th Tank Brigade would race across, then the 28th East African would make a feint south of the main crossing to make it appear that the larger 11th East African Division was crossing for an attack on Chauk. Allen, *Burma*, 415. The 28th East African Brigade was transferred from Fourteenth Army reserve two days prior. Moreman, *The Jungle*, 188. The initial crossing plan envisioned a four-phase operation: a night assault crossing, a rapid daytime follow-up, a quick advance from the bridgehead, and then expanding the bridgehead to allow 17th Indian Division to cross. Slim, 426.

significant IJA counterattack,⁷⁸ the southern IV Corps attackers moved two divisions and an armoured brigade across the river between Pakokku and Nyaungu.⁷⁹ After fighting defenders spread thin along on their approach to the river and some initial struggles on 13 February caused by confusion and mistakes,⁸⁰ the next morning 7th Indian Division crossed the Irrawaddy near Nyaungu and began to establish the beachhead for the 17th Indian Division and 255th Tank Brigade from which they would race toward Meiktila.⁸¹ The units struck between the IJA's Fifteenth and Twenty Eighth armies, and in three days had crossed the river in a "complete success."⁸² This light resistance was enabled largely by the Japanese focusing further away against XXXIII Corps near Mandalay rather than the southern thrust, as the former "acted as a magnet."⁸³ By mid-February, IV Corps controlled an east-bank bridgehead and on 22 February the two mechanized brigades and 255th Tank Brigade began toward Meiktila.⁸⁴

City Clearing and Mobile Defence, March 1945

Seizing, clearing, and defending Meiktila revealed an effective application of combined-arms tactics, defensive boxes, and the pivot system versus Japanese forces that fought with similar defensive methods as in rural terrain. Inside the "brick built town," Japanese defenders would "not fight from room to room" but rather from "a series of strong points by digging bunkers inside the foundations of the houses, and sometimes in the ground floor rooms."⁸⁵ These bunker positions could be cleared "the same way as other bunkers" with the known tactical drills proving "satisfactory."⁸⁶ Additionally, the improved tank and infantry cooperation allowed British forces to defend the Meiktila airfield, critical for resupply and

⁷⁸ Dunlop, 186. The initial brigade was "expecting savage counter-attacks. None came; only a few jitter parties prowled the perimeter." Slim, 430.

⁷⁹ Kirby, *The Reconquest of Burma*, 264-265.

⁸⁰ "The Japanese rear-guards astride the main track, which were small and obviously under orders only to delay, relied largely on obstruction and mines." Slim, 422. For more details about the IJA defensive orientation against the IV Corps approach as well as initial challenges by 7th Indian Division, see Allen, *Burma*, 416-418, and Slim, 427-428.

⁸¹ WO 203/314, 6; Kirby, *The Reconquest of Burma*, 255.

⁸² Kirby, *The Reconquest of Burma*, 266.

⁸³ Moreman, *The Jungle*, 190.

⁸⁴ Dunlop, 186; Hastings, *Retribution*, 321.

⁸⁵ *AITM* 30, 10.

⁸⁶ *AITM* 30, 10.

sustaining the operation. Therefore, over several weeks in March, IV Corps units drove east to Meiktila, flanked the Japanese, isolated them from their supply lines in a seizure which “finally destroyed any chance” for the IJA to reverse its setbacks in central Burma, and left it open for the push out of the country.⁸⁷

In preparation, the 17th Indian Division pushed through the plains with two motorized brigades, the 48th and 63rd, with the 99th to arrive by air once controlling the airstrip.⁸⁸ During the approach, 17th Indian Division used tanks advancing across a wide front to clear the Japanese defenders, moving 80 miles to position around the city.⁸⁹ The general tactics remained those “taught in our training pamphlets and at our tactical schools,” and recommendations addressed the technical use of weapons or assault manoeuvres which did not challenge underlying concepts—the same used in the main attack.⁹⁰ On 21 February “the real [advance] began” along two axes, led by the 48th infantry and 255th tank brigades, with all forces encountering persistent but limited IJA resistance.⁹¹ The next day units repulsed IJA assaults which were outnumbered, outgunned, and “easily pushed aside.”⁹² Similar actions occurred over the following three days. The “strongest and most determined” Japanese attempt to stall 17th Indian Division’s advance was faced near the road to Meiktila, countered by 63rd Brigade outflanking in a wide northern hook with tanks attacking from the front.⁹³ The IJA was “rapidly overrun” as defenders struggled against the “massed armoured attacks and seemed incapable of dealing with them.”⁹⁴ By 27 February, 17th Indian Division and its supporting units from IV Corps were outside Meiktila and preparing to assault the city.⁹⁵ Fortunately for them, the 99th Brigade had just arrived by air.⁹⁶

For the assault on Meiktila town, defending the area would be 12,000 personnel across several detachments and locations, with the centre held by a

⁸⁷ Allen, *Burma*, 425; Millett and Murray, *A War to be Won*, 491.

⁸⁸ WO 172/6986, Notes on the Operations of Allied Land Forces SEA. 1 Feb–2 Apr 1945, 1.

⁸⁹ Thompson, 305.

⁹⁰ *AITM* 30, 6–7.

⁹¹ WO 172/6986, Brief Account of Meiktila Operations, 18 Feb–5 Mar 45, p. 2, 17 Indian Division “G” Branch, 1945 January–June, TNA. File cover is mislabelled as the 14 Indian Division.

⁹² Slim, 440–441.

⁹³ Slim, 441–442; WO 172/6986, Brief Account of Meiktila Operations.

⁹⁴ Slim, 441–442.

⁹⁵ WO 172/6986, Notes on the Operations of Allied Land Forces SEA., 1.

⁹⁶ Thompson, 304.

garrison of approximately 3,200 armed with “a large number of guns.”⁹⁷ Additional forces would arrive in March. The garrison did not have a long time to prepare but did manage to dig “under houses, in the banks of lakes, in concrete and earth covered timber strong-points.”⁹⁸ Thirty Third Army would lead the defence, supported by forces arriving from Fifteenth Army which planned to deliver supporting counterattacks around 10 March with the 18th Division, a regiment each from the 15th and 33rd Divisions, and most of the army’s artillery.⁹⁹ For British attackers, the axes of assault would be dictated by lakes, irrigation channels, and ditches, which required the avenues of approach to be from the east or west with the city sitting between.¹⁰⁰ The 17th Indian Division aimed to capture the city by using 63rd Brigade to block the west, while the main attack led by 255th Tank Brigade and supported by 48th Brigade would circle around the north lake and attack the city from the east, and divisional artillery positioned in the west.¹⁰¹ The division established static defensive positions to protect key locations surrounding the Meiktila airfield, and established roadblocks with defensive boxes from which patrols could find and attack IJA positions.¹⁰²

Now the 17th Indian Division, supported by IV Corps, attacked the city using established techniques to clear the IJA defenders. Over four days the division fought from the eastern plains, gained control of the city’s airfield, and seized the town.¹⁰³ On 1 March the 17th Indian Division attacked with the 63rd Brigade to seize the urban area between the two lakes, the 48th Brigade to seize the shore of the southern lake, and the looping 255th Tank Brigade moving to seize the airfield east of Meiktila.¹⁰⁴ The infantry attacks penetrated the town while the tank brigade

⁹⁷ Frank McLynn, *The Burma Campaign: Disaster into Triumph 1942–45* (London: Vintage Books, 2010), p. 426; Slim, 442. The 168th Regiment formed the core of infantry troops. Moreman, *The Jungle*, 193.

⁹⁸ Slim, 442.

⁹⁹ After fighting near the Irrawaddy then command of Meiktila shifted to Thirty Third Army. Allen, *Burma*, 433, 450.

¹⁰⁰ The IJA’s lines of communication did not run directly through the town but were three miles northwards near the northern lake. The main railway did not run through the city, but a branch did, and the road to Mandalay passed nearby along the city’s northeast. Controlling the city would enable control over these locations. Allen, *Burma*, 435.

¹⁰¹ WO 172/6986, 17 Ind Div Op Instr No: 2, 1; Allen, *Burma*, 434, 437.

¹⁰² Marston, “The War in Burma,” 280.

¹⁰³ See WO 172/6986, HQ 17th Indian Division War Diary, entries for 1–6 March 1945; Allen, *Burma*, 433–436.

¹⁰⁴ WO 172/6986, Brief Account of Meiktila Operations, 4.

progressed until stalling on the nearby hills due to Japanese firepower using artillery, defensive bunkers, and well-placed snipers across a screen of fortified bunkers and houses.¹⁰⁵ Inside the city, forces faced bunkers and defensive systems that required methodical attacks by platoons of infantry with tanks.¹⁰⁶ Once inside the city, attackers manned positions which the Japanese re-attacked during the night, resulting in hand-to-hand fighting.¹⁰⁷ As “throughout the whole battle for Meiktila, the [Japanese] were in very strong bunkers, were very strong in automatic weapons... fought fanatically, refusing to vacate a single bunker.”¹⁰⁸ On 2 March the division started clearing areas while experiencing “intensive fighting against pockets of resistance.”¹⁰⁹ The 63rd Brigade made two attacks using tanks and a battalion to clear the west of Meiktila, fighting through buildings until halted near the railway, and 48th Brigade similarly fought to clear the east.¹¹⁰ The 63rd Brigade cleared defenders from the west while 48th Brigade cleared houses of IJA fighters and pushed them southward towards the water in the midst of IJA mines, artillery, and tough individual resistance.¹¹¹ Infantry and tanks fought IJA artillery “at point blank range” and 48th Brigade fought the guns which “were gradually eliminated, one by one.”¹¹² Meanwhile, the 255th Tank Brigade seized the airfield and continued to send patrols around the nearby area.¹¹³ In addition to the standard IJA defences, attackers encountered individual soldiers using suicidal, manually-detonated anti-tank mines: a soldier crouched in a hole or narrow trench with an aircraft bomb that he manually detonated with a rock or brick when passed over by a tank; however, the technique did little to reduce attackers’ capabilities.¹¹⁴ By 3 March the 48th Brigade finished clearing north and east of Meiktila, as the division finished clearing

¹⁰⁵ WO 172/6986, Brief Account of Meiktila Operations, 4; Kirby, *The Reconquest of Burma*, 270; Allen, *Burma*, 437.

¹⁰⁶ WO 172/6986, Operations of 63 INF BDE Subsequent to the Crossing of the R. Irrawaddy, pp. 2-3. For an example describing tank–infantry cooperation see Slim, 448-450.

¹⁰⁷ Slim, 451.

¹⁰⁸ WO 172/6986, Brief Account of Meiktila Operations, 5.

¹⁰⁹ WO 172/6986, message from 17 Ind Div to IV Corps, 1.

¹¹⁰ Allen, *Burma*, 439; Slim, 451.

¹¹¹ “They were still fighting fanatically, and guns and mines held us up considerably.” WO 172/6986, Brief Account of Meiktila Operations, 5. Allen, *Burma*, 439.

¹¹² Slim, 451.

¹¹³ Kirby, *The Reconquest of Burma*, 270-271.

¹¹⁴ WO 203/314, Notes on the Operation of Allied Land Forces SEA., 1 Feb–24 Apr 1945, p. 4, Burma Operations: Short Histories, March – May 1945, TNA; see also Slim, 455.

the town and controlled most of the area.¹¹⁵ Final attacks occurred 4 March which consolidated gains, notably at the airstrip which was operating the next day.¹¹⁶

After seizing Meiktila, the 17th Indian Division applied defensive boxes and mobile sweeps to defeat the IJA counterattack, the most significant threat to the operation. The division had cut off IJA Fifteenth and Thirty Third armies further north, but now it was “surrounded, besieged” and would be subjected to “fierce counter-attacks” as the BAA attempted to reconnect its armies.¹¹⁷ From 6–10 March the 17th Indian Division prepared for the upcoming Japanese counterattack and probed approaching forces. The 99th Brigade would defend the airfield and secure a larger position from which the division could mount mobile operations, while the division also created six “harbours” for mobile patrols which would be manned by parts of three brigades.¹¹⁸ The division minimized the number of forces in static defence to enable more personnel to conduct mobile offensive sweeps, a key element of holding Meiktila and undermining counterattacks. This orientation and tactics enabled the division to attack Japanese formations before they could assemble with full strength and exploited British advantages in mobile firepower. The points housed combined forces which would deploy columns of tanks and infantry while a company remained to defend the position.¹¹⁹ Operations began on 6 March. The columns “went out daily to hunt, ambush, and attack approaching Japanese columns of various sizes in a radius of twenty miles of the town.”¹²⁰ Raids continued along with “extensive patrolling” during the nights of 9–10 March to locate and fight approaching IJA forces.¹²¹ On 14 March the first reinforcing IJA units approached and took positions east of the airfield,¹²² and clashes during 15–16 March revealed that “a Japanese force of unknown strength succeeded in digging itself in on the eastern side of the runway, dominating the whole of it.”¹²³ Subsequent patrols discovered more Japanese relief forces closer to the town, with

¹¹⁵ WO 172/6986, Brief Account of Meiktila Operations, 5.

¹¹⁶ WO 172/6986, message from 17 Ind Div to IV Corps, 1; Brief Account of Meiktila Operations, 6; Kirby, *The Reconquest of Burma*, 271.

¹¹⁷ Dunlop, 186.

¹¹⁸ Kirby, *The Reconquest of Burma*, 286.

¹¹⁹ Moreman, *The Jungle*, 194–195.

¹²⁰ Slim, 454.

¹²¹ WO 172/6986, message from 17 IND DIV to IV Corps, 09 March 1945; Kirby, *The Reconquest of Burma*, 287.

¹²² WO 172/6986, 17th Indian Division War Diary entry 16 March.

¹²³ Kirby, *The Reconquest of Burma*, 307.

day-long operations overrunning several IJA locations and seizing nearby artillery but without removing the IJA threat to the critical airfield.¹²⁴ With IJA forces threatening the airfield through harassing fire and sporadic patrols on the airfield itself, from 15–17 March the Fourteenth Army committed its reserve by flying the 9th Brigade into a defensive box near the Meiktila airstrip, and forces joined 99th Brigade in its daily battles to control the crucial location.¹²⁵

From 14–15 March the larger IJA counterattack began the battle's "most critical stage."¹²⁶ Thirty Third Army led the regional assault with "the equivalent of a corps of two divisions," in a plan to overwhelm 17th Indian Division holding Meiktila town, while also cutting its resupply line at the Nyaungu bridgehead.¹²⁷ The latter failed as IJA 33rd Division and 72nd Independent Mixed Brigade attacked the 7th Indian Division, still at the Nyaungu bridgehead, with attackers suffering losses so severe that "two battalions of 72 Independent Mixed Brigade ceased to have any value as a fighting unit."¹²⁸ But the larger attack on Meiktila would be much more sustained, and for the next three weeks BAA forces re-attacked with all available units in an "all-out effort to recapture the town" and to open a route to withdraw south.¹²⁹ Personnel from at least three divisions and an artillery group attacked the town in "a series of fierce albeit piecemeal, uncoordinated Japanese attacks."¹³⁰ Control of the airfield remained critical and on 17 March BAA attackers infiltrated the area, burned aircraft, destroyed fuel tanks, and made "landing of aircraft no longer possible" which necessitated airdropping all supplies for the

¹²⁴ WO 172/6986, message from 17 IND DIV to IV Corps, 09 March 1945; Kirby, *The Reconquest of Burma*, 307.

¹²⁵ WO 172/7085, H.Q. 9 IND INF BDE War Diary, March 1945, p. 1, 9 Indian Infantry Brigade HQ, 1945 January – December, TNA; Kirby, *The Reconquest of Burma*, 307; Moreman, *The Jungle*, 195. The 9th Brigade was from the 5th Indian Division.

¹²⁶ Allen, *Burma*, 306. On 14 March the Thirty Third Army was officially designated as the command authority for the counterattack, to become administratively in effect three days later. It incorporated the elements of Fifteenth Army still in the nearby areas that were harassing the town, as well as the other units discussed earlier. Kirby, *The Reconquest of Burma*, 298.

¹²⁷ Slim, 453. Thirty Third Army's counterattack used the 18th Division, minus one regiment; one regiment each from the 53rd and 33rd divisions; the 49th Division, minus one regiment; various army units, artillery, parts of a tank regiment; and eventually a regiment of the 2nd Division; nearby the IJA received two battalions from the 55th Division, as well as two infantry battalion and one of artillery from the 54th Division. Slim, 453.

¹²⁸ Moreman, *The Jungle*, 194.

¹²⁹ Kirby, *The Reconquest of Burma*, 295, 297.

¹³⁰ Moreman, *The Jungle*, 194.

occupying units.¹³¹ With insufficient British forces to form a full perimeter defence, the IJA infiltrated the area, entrenched several positions with anti-tank guns, laid mines, waited in ambush, patrolled onto the airfield, and began a larger effort to seize the area.¹³² IJA artillery strikes continued with “several strong attacks” that “succeeded in gaining the main [airfield].”¹³³

To reopen lines of communication, now 17th Indian Division battled Thirty Third Army for control over the airfield using small-unit assaults supplemented by brigade sweeps from defensive positions.¹³⁴ The brigades coordinated patrols and attacks from their defensive boxes while also enduring IJA assaults and indirect fire as forces contested control of the airstrip for several days.¹³⁵ From 21–26 March the IJA delivered “continuous pressure” against the airfield in fighting that was “grim and at close quarters” and supported by effective artillery.¹³⁶ On 24 March fighting peaked as IJA tanks, infantry, and artillery attacked the airfield’s west and multiple defensive boxes with precise fire and successful infiltration.¹³⁷ The result was a “desperate fight” through the dawn, until attackers were finally pushed away.¹³⁸ Simultaneously, Japanese forces entrenched on the airfield and required clearing while others, unnoticed, attacked aircraft bays. Over the next three days, 48th Brigade led the area’s clearing as infantry supported by tanks pushed forces back from the airfield. Nevertheless, it remained covered by Japanese artillery and would receive numerous IJA counterattacks that seized portions, often at night, before being cleared away with British firepower.¹³⁹ By 29 March, the final IJA elements had been pushed off the airfield, “having suffered disastrous casualties.”¹⁴⁰ On 31 March the airfield had “planes landing for first time in seven days.”¹⁴¹

¹³¹ Kirby, *The Reconquest of Burma*, 307. The 17 Guerrilla Company attacked at 0300 on 15 March and again the next three nights from different locations. Allen, *Burma*, 446.

¹³² Here too the IJA employed the “human mine” technique. Slim, 454–455.

¹³³ WO 203/1791, Weekly Operational Notes for the Week Ending 17 March 1945, p. 3, Burma: Weekly Operational Notes ALFSEA, 1944 December – 1945 June, TNA.

¹³⁴ WO 172/6986, 17th Indian Division War Diary entries 17–23 March. Now with 9th Brigade assuming static defences and the 99th in mobile attacks. Allen, *Burma*, 447.

¹³⁵ WO 172/7085, 9 BDE War Diary entries 24 March.

¹³⁶ Kirby, *The Reconquest of Burma*, 308–309; Allen, *Burma*, 447–448.

¹³⁷ WO 172/6986, 17th Indian Division War Diary entry 16 March.

¹³⁸ WO 172/7085, 9 BDE War Diary entry 24 March; Kirby, *The Reconquest of Burma*, 309.

¹³⁹ WO 172/6986, 17th Indian Division War Diary entries 23–28 March; Slim, 455.

¹⁴⁰ Slim, 455.

¹⁴¹ WO 172/7085, 9 BDE War Diary entry 31 March.

By this day “it was plain that the Japanese had abandoned all hope of recapturing Meiktila.”¹⁴² With the airfield lost, the 5th Indian Division approaching, the IJA greatly outnumbered and suffering from significant casualties, the Japanese withdrew.¹⁴³ Thirty Third Army and other units drawn into the counterattack had suffered unsustainable casualties in a major defeat. The 18th Division lost one-third of its personnel and half of its guns. The 49th Division lost 6,500 personnel—nearly two-thirds of its total—and almost all its guns.¹⁴⁴ Thirty Third Army effectively ceased to function as a fighting unit, with the Fifteenth and Twenty Eighth armies also severely reduced. For the IJA, losses “were extremely heavy” as the Burma Area Army “had virtually ceased to exist as a fighting force.”¹⁴⁵ Since crossing the Irrawaddy, IV Corps lost approximately 8,198 personnel.¹⁴⁶ By 20 March, other elements of Fourteenth Army had cleared Mandalay, combining to deliver control over central Burma’s rail and road network for a push toward Rangoon.¹⁴⁷ Now vastly outnumbered and outmatched, IJA campaign defeat was largely inevitable.

Identifying Effectiveness and Evaluating British Success

The breakout to capture Meiktila provides a clear example of operational success. Fourteenth Army destroyed Fifteenth Army, most of Thirty Third Army, and eroded the Burma Area Army so that it could no longer hold Burma’s vital centres. The operation “represented the high peak of Britain’s war in the Far East” as forces advanced over four hundred miles and completed all assigned missions in the window of time before the monsoon would halt operations.¹⁴⁸ Regarding costs, the British suffered more casualties but only 12.7% were fatal, for 2,307 out of 18,195, compared with the approximately 13,000 Japanese casualties which died at a higher

¹⁴² Kirby, *The Reconquest of Burma*, 313.

¹⁴³ Marston, 282; Moreman, *The Jungle*, 195.

¹⁴⁴ IJA 18th Division, not including the additional attached units, lost about 33% of its entire force by suffering 1,773 casualties, as well as 22 out of 45 artillery pieces. The 49th Division lost 65%, 6,500 of its 10,000, as well as 45 out of 48 artillery pieces. The other units engaged “are not available but would presumably be of a similar order... casualties suffered by [Fifteenth Army] are not recorded but it is evident that they were equally heavy.” Kirby, *The Reconquest of Burma*, 313.

¹⁴⁵ Kirby, *The Reconquest of Burma*, 313.

¹⁴⁶ Calculated as 835 killed, 3,174 wounded, 90 missing, and approximately to 4,000 lost from sickness. Kirby, *The Reconquest of Burma*, 311.

¹⁴⁷ Hastings, *Retribution*, 330.

¹⁴⁸ Hastings, *Retribution*, 328-330.

rate.¹⁴⁹ Thus, as a measure of achievement and efficiency, the 1945 battles through Meiktila represent a striking success for attacking forces.

British forces indicated high operational effectiveness by displaying sophisticated manoeuvre. Fourteenth Army executed breakthrough and exploitation operations against BAA defences by uniquely tailoring British strengths against Japanese weaknesses. Once information revealed that neither the Fifteenth nor Thirty Third armies would fight in the Schwebo plain, Fourteenth Army altered plans and executed a multi-division river crossing which coordinated a two-corps pincer movement in mutual support. Next, the multi-division movements applied consistent tactical abilities through complex, fluid unit actions that entrapped and critically isolated elements of two Japanese armies. Exploiting Japanese weakness at Meiktila, the British assault and mobile defence against IJA counterattacks crippled the BAA. Throughout this time, British tactical leadership performed consistently well across numerous fluid actions. As such, British forces exacerbated IJA setbacks from which the larger BAA would not recover.¹⁵⁰

During the operation, British forces displayed high effectiveness across three new environments without significant changes to their tactics or concepts. Unique from the other case studies, forces displayed increased operational effectiveness without significant tactical adaptation beyond those from before the operation and did not suffer from this consistency. Rather than changing procedures to meet the new environments, Fourteenth Army applied existing tactics to the new situations. Transitioning to increased motorization, coordinating a river crossing, and fighting at Meiktila, all presented altered environments compared with the jungle fighting since late 1941, but the British response reflected improved small-unit firepower and cross-unit cooperation that was learned in 1943 and tested in 1944. Later, when considering the lessons from 1945 operations, the army assessed:

It was very noticeable that practically all the tactical points... were the same points which are taught in our training pamphlets and at our

¹⁴⁹ The BAA's three remaining armies were unable to mount a strong defence as British forces continued to pursue the retreating BAA, and over the next 26 days Fourteenth Army would capture Rangoon. Hastings, *Retribution*, 332.

¹⁵⁰ Moreman, *The Jungle*, 197-198.

tactical schools. Very few new points came to light. Generally speaking it may be said that our teaching is up-to-date.¹⁵¹

For the critical combination of tanks and infantry, “our present teaching about the use of tanks in the attack has proved correct.”¹⁵² The existing lessons and concepts had proved fundamentally sound. However, possessing concepts did not ensure that all forces had trained in them. Reflecting again on the Burma operations of 1945:

It was surprising what results were achieved when infantry, *who had had no training with tanks*, were called upon to work with them with only a very short time to marry up. But all COs emphasized that efficiency went up by leaps and bounds after units had worked together for a day or two.¹⁵³

These assessments indicate how, by early 1945, tactical concepts underlying British warfighting tenets were fundamentally sound for fighting the IJA in Burma. Tactics rested on a foundation that did not require significant change or new training as indicated by the ability of British troops to apply small-unit combined arms firepower across new environments.

For the IJA, the Burma Area Army displayed intermediate effectiveness, consistent with essentially all the past performances in Burma since 1941. IJA forces—again like most instances in this analysis—conducted no significant tactical adaptation, and during this operation the IJA’s unchanged methods contributed to operational failure. Yet throughout this costly failure the Fifteenth and Thirty Third armies still performed several of the effectiveness criteria with considerable skill; this operation was not the disaster of Imphal. BAA repositioned three armies (each equivalent to a corps) and conducted a gradual fighting withdrawal across the Chindwin River, Schwebo plain, and around the Irrawaddy. Across numerous environments the IJA regiments counterattacked with small-unit initiative to include the rear-guard actions in the plains, the tactical counterattacks on the Irrawaddy bridgeheads, and the repeated assaults around Meiktila. Regiments and companies maintained core combat skills across basic small-unit engagements even when outnumbered and outgunned, as seen around Meiktila when 17th Indian Division and

¹⁵¹ *AITM 30*, 6.

¹⁵² *AITM 30*, 8.

¹⁵³ *AITM 30*, 9. Italics added.

IV Corps methodically cleared IJA positions. The BAA shifted responsibility from the eroding Fifteenth Army and once Thirty Third Army was defeated at Meiktila then it conducted a timely retreat that avoided slipping into further disaster. Granted, the BAA also continued to display shortcomings that limited their battlefield performance. When attempting to operate units as large as a division, the elements often operated independently and failed to combine effects above the level of the regiment. For example, during the main counterattack at Meiktila, the Thirty Third Army used 18th Division minus one regiment, one regiment each from the 53rd and 33rd divisions, the 49th Division minus one regiment, various army units, artillery, parts of a tank regiment, and (eventually) a regiment from the 2nd Division.¹⁵⁴ This shortcoming was particularly severe around Meiktila—the one true situation where BAA attempted to mass counterattacking units—as the IJA elements fought ferociously but in an uncoordinated, piecemeal manner. As a result, division-sized units would fail to fight together like a coherent division synergistically applying effects. This shortcoming aggravated the larger IJA limitation of failing to tailor its strengths against British weaknesses, seen along the Chindwin shore, Irrawaddy bridgeheads and Meiktila town. This problem was also exacerbated by the BAA's unchanged methods.

Like past operations, the IJA failed to adapt and this inflexibility proved costly, particularly in the missed opportunities against fleeting British vulnerabilities. When British forces were susceptible at the Irrawaddy bridgeheads (and slightly vulnerable as they crossed the Chindwin), Fifteenth Army failed to repel the attackers while using the same techniques that already had proven vulnerable to British firepower. Most pointedly, the Meiktila defenders orientated themselves like other defensive positions, providing attackers with a problem they had solved since the Second Arakan Encounter. This scenario also failed to exploit advantages for defending city terrain. The result was that attackers could use established practices to clear the city, and IJA forces missed an opportunity to deliver additional costs while defending the city. The BAA failed to create new

¹⁵⁴ Additionally, nearby IJA units received two battalions from the 55th Division, as well as two battalions of infantry and one of artillery from the 54th Division. Slim, 453.

setbacks which could require British adjustments to new defensive scenarios.¹⁵⁵ In addition to these specific instances, the BAA continued to reflect a larger problem displayed by Japanese forces since the Second Arakan Encounter in that small units remained outmatched in tactical skill compared with their British counterparts. While British tactical firepower delivered advantages, and contributed to success, it was the consistent relative advantages in British small-unit skill that enabled operational success and doomed the IJA to failure. The Japanese also had tanks, anti-tank weapons, and artillery; the British had more but, more importantly, had learned to use them better. Against British infantry and tank firepower—adjusted and improved since Imphal but not fundamentally different—the one new IJA technique of human mines proved ineffective and a costly use of limited manpower.

Related to these assessments, this case raises two additional questions about operational effectiveness. First, might British effectiveness appear falsely high due to BAA battlefield choices? Throughout the operation, except for the Meiktila airfield, Japanese resistance was relatively light, often intentionally. If operational effectiveness must be identified during a dynamic clash between adversaries and measured relative the performance of another, then this scenario raises questions about how to measure British effectiveness when the Japanese were not truly contesting them in the plains or at the Irrawaddy. Put simply, did the British fight well or did the light resistance make them appear better than they were? More specifically, would the British have been able to conduct sophisticated manoeuvre had the Japanese challenged them sooner or harder on the plains, at the river, or in the city? These questions suggest that forces may indicate a higher level of effectiveness against light resistance than would be displayed against forces with similar capabilities only applied in a different manner. Very likely it is easier to appear highly skilled when one's own vulnerabilities are not tested—such as the Irrawaddy bridgeheads, along the eastern bank of the Chindwin, or inside Meiktila town. Increased BAA resistance at these areas may not have increased the likelihood for a different outcome—and may even have been costlier for the Japanese with

¹⁵⁵ Difference between Japanese city defences in Burma and German urban defences is notable. Mentioned briefly in *AITM 30*, 10. For an assessment of German river defences and the need to adapt against them, see Michael D. Doubler, *Closing with the Enemy: How GIs Fought the War in Europe, 1944–1945* (Lawrence, Kansas: University Press of Kansas, 1994), pp. 141–171.

forces spread thinner—but when considering the measurement of British effectiveness then this question bears remembering.

Second, if Fourteenth Army fought across three new environments with high effectiveness but without major tactical adaptation then what else might have contributed to this performance and outcome? The expanded scale of actions and changed role of tactical events may have played a part. As units moved into the plains there was also a larger expansion in the number of forces and the size of their units. What began as regiments and brigades fighting in the First Arakan Encounter had become two full-sized corps with numerous divisions moving across greater distances at a faster rate. As forces, units, time, space, and firepower expanded in size and scale, the tactical developments remained an invaluable foundation but the critical changes, to include the key adjustments for the operation, occurred at a higher level. The coordination of logistics, planning, manpower, mobile reserves, extended lines of communication, and movements of two corps across a major river required substantial staff work and planning precisely so that the actions would occur with minimal surprise once executed, limiting the need for tactical change. Moving forces to Meiktila occurred at a rate faster than Japanese defenders responded, enabling British units to fight from an advantage and undermining Thirty Third Army's counterattack. The larger movement of divisions between corps and different locations, along with supporting firepower, by ground, rail, and air, provided benefits on the Meiktila airfield which enabled tactical advantages to accumulate. The aerial resupply of defensive boxes continued at several points through the operation, representing tactical efforts that had to be aligned by higher command to avoid isolating units and removing resources for their routine sustainment—a key deficiency in IJA planning. While presumptuous to claim that Fourteenth Army conducted a variant of modern mission command,¹⁵⁶ it does seem fair that:

¹⁵⁶ Graham Dunlop argued that Fourteenth Army commander Slim employed a form of mission command due to an environment and dispersal of forces that, after some initial setbacks, developed into a proficient system. Dunlop concluded: "By the time of the Irrawaddy River battles of early 1945, mission command was clearly well understood by the corps and division commanders." Graham Dunlop, "British Tactical Leadership in the Burma Campaign, 1941–45," in Brian Bond and Kyoichi Tachikawa, eds., *British and Japanese Military Leadership in the Far Eastern War, 1941–1945* (Abingdon, Oxon, England: Routledge, 2012), p. 103, originally published 2004.

The art of tactical command by this stage was characterised less by the sort of cunning which had been required in the confines of the jungle, and more by the special awareness needed to co-ordinate a complex, multi-disciplinary, combined arms organisation, manoeuvring at greater speed.¹⁵⁷

This increased emphasis on army-level control, corps planning, and division staff, indicates how larger operational decisions were having a significant impact on the tactical battlefield in greater proportion than in previous operations. If the tactical level may culminate at the corps—a reasonably high ceiling and one slightly above this study’s emphasis on brigades and divisions—then success in the Meiktila breakout relied significantly on decisions made at the operational level by a few commanders. This expanded operational size may have altered the nature of tactical adaption regarding who are the most relevant actors, the role of time, and how missed opportunities relate to exploiting advantages or exacerbating setbacks. This intersection of individuals, their impact on tactical change, and on measuring effectiveness also applied in some ways to the Japanese, albeit on a smaller scale. The decision by Commander Burma Area Army Kimura to reorient his armies—not an unsound decision—indicated how decisions above the tactical level shaped the operation and subsequent tactical events as forces delivered limited resistance which reduced the need for British tactical change. It also enabled Fourteenth Army to act relatively unchallenged, possibly concealing vulnerabilities. Future examinations of adaptation and effectiveness may benefit from additional study of these topics.

¹⁵⁷ Dunlop, “British Tactical Leadership,” in Bond, 103.

Figure 9.1: Measuring Adaptation, Effectiveness, Outcome: Breakout to Meiktila

	WARTIME CHALLENGE	TACTICAL ADAPTATION	OPERATIONAL EFFECTIVENESS	IMPACT ON OUTCOME	OPERATIONAL OUTCOME
GB	PURSUIT ACROSS OPEN PLAINS	MOTORIZED, MOBILITY & TACTICAL FIREPOWER	INCREASED; HIGH	ENABLED SUCCESS	SUCCESS
	RIVER CROSSINGS	TACTICAL COMBINED- ARMS AT BRIDGEHEAD			
	CITY SEIZURE, CLEAR & DEFEND	MOBILE ATTACKS & TACTICAL COMBINED- ARMS			
IJA	INFANTRY & TANK TACTICS & FIREPOWER	HUMAN MINES	INCREASED; INTERMEDIATE	EXACERBATED SETBACKS	FAILURE
	RIVER DEFENSE	NONE	(LIKE OTHER OPERATIONS; HIGHER THAN		
	CITY DEFENSE	NONE	FIFTEENTH ARMY, IMPHAL)		

Findings and Relevance

Case Study Assessment: Tactical adaptation by British forces contributed to high operational effectiveness and resulted in success during the breakout to Meiktila.

In this case study, hypothesis 1 (H1), central vertical information mechanism over decentralized horizontal, is supported. By collecting, examining, and assessing the tenets of IJA tactics and operations in 1942 and 1943, by 1945 the British had devised solutions and incorporated them into shared tactical concepts and common training. This process provided sufficient readiness and capabilities to deliver operational success in the breakout to Meiktila. With this foundation of small-unit infiltration, tactical combined-arms firepower led by the infantry, procedures for clearing defensive bunkers systems, and techniques for repelling Japanese attacks, the fighting in 1945 required no significant changes as Fourteenth Army effectively destroyed the Burma Area Army. Critically, the shared understanding of general tenets and concepts—even when not fully incorporated into one comprehensive

doctrine, as was the case with infantry-armour coordination—enabled cross-unit coordination to mass effects across brigades and divisions. Combined with the enhanced coordination and planning at the corps and army echelon, these shared tenets enabled Fourteenth Army, and particularly IV Corps, to concentrate its power and relative strengths against Japanese defenders and their general weaknesses. In addition, decentralized, horizontal mechanisms for sharing information had minimal impact on either British or Japanese units during the operation. H1 would have been affirmed if the process of learning through centralized, vertical mechanisms had occurred throughout the operation rather than only prior to it.

Hypothesis 2 (H2), anticipation over improvisation, comes out as neutral. By 1945, the British had studied the general tactical challenges posed by the IJA in Burma and had developed concepts that required no major revision during the breakout to Meiktila. Applying these concepts to practical scenarios would require some battlefield adjustments since none of the specific environmental challenges during the breakout operation were studied in significant detail before it, but combat units possessed a fundamentally sound body of tactics for fighting as brigades and divisions which facilitated these adjustments without requiring major change. Combined with the light Japanese resistance until arriving at Meiktila, this scenario meant that essentially no new specialized skills were required. In the central plains, forces employed a core proficiency in basic skills and complex tactics to exploit advantages across a larger area. Similarly, the Irrawaddy River crossing occurred largely unrehearsed and with remarkable success for moving two corps while simultaneously deceiving IJA headquarters to believe that Mandalay was the primary target. Finally, since the IJA continued to use consistent tactics defending Meiktila city and in the counterattack against 17th Indian Division, the British forces' previous solutions were sufficient for clearing the town and holding the area.

Hypothesis 3 (H3), skill over technology, is supported. British forces consistently applied superior small-unit, infantry-led combined-arms firepower for significant impact during the operation. Rather than any unique equipment modernization or technological advancement, throughout the breakout to Meiktila it was the consistent, coordinated application of existing technology that contributed to British advantages and IJA setbacks. No specific technological advancement or superior modernization occurred prior to the operation, and none appeared to occur

during it. While growing Allied resources contributed to success, particularly in logistics, movement, and coordination across units, it was the improved skill in combining effects at the tactical level that proved decisive across numerous engagements that aggregated to larger success. Since 1943, British forces had reorganized and retrained with new tactics that significantly improved operational effectiveness and contributed to success. H3 would have been affirmed had the Japanese delivered a greater challenge to invading forces, which would have enabled a better assessment of tactics in the new environments.

Figure 9.2: Findings for the Breakout to Meiktila

Measurement Scale: (+) Affirm \Leftarrow Support \Leftarrow Neutral \Rightarrow Dispute \Rightarrow Contradict (-)

	INVASION 1942	FIRST ARAKAN 1942–43	SECOND ARAKAN 1944	FIRST LRPG 1943	SECOND LRPG 1944	IMPHAL 1944	BREAKOUT 1945
H1: CENTRAL	NEUTRAL	SUPPORT	AFFIRM	SUPPORT	SUPPORT	AFFIRM	SUPPORT
H2: ANTICIPATE	DISPUTE	DISPUTE	AFFIRM	DISPUTE	DISPUTE	SUPPORT	NEUTRAL
H3: SKILL	AFFIRM	AFFIRM	AFFIRM	NEUTRAL	NEUTRAL	SUPPORT	SUPPORT

Chapter Ten

Findings and Conclusions

In 1945 the Indian Army faced another mission for which it was unprepared: occupation in Malaya, Burma, French Indochina, and the Dutch East Indies.¹ Disarming Japanese forces, liberating Allied POWs, and attempting to re-establish control led some Indian Army units to fight counterinsurgency campaigns against local guerrillas.² After fighting in Imphal and pursuing the IJA down central Burma,³ in September the 20th Indian Division arrived in Saigon to assist the re-imposition of French colonial authority.⁴ To regain control of surrounding territory, the division began fighting Viet Minh around Saigon and, as operational challenges mounted, some units used Japanese soldiers for “more offensive roles” alongside and sometimes commanded by British officers.⁵ In this new situation, 100th Indian Brigade “defaulted to their wartime experience”⁶ using mobile, combined-arms columns to assault the Viet Minh, not unlike those displayed at Meiktila months prior.⁷ Before the French resumed control in January 1946, the 20th Indian Division had killed over 2,000 Viet Minh while suffering 40 dead and 100 wounded. The British departed, but fighting would continue, eventually leading to the events at Red River Delta referenced in this paper’s opening.⁸

¹ Daniel Marston, “The 20th Indian Division in French Indo-China,” in Alan Jeffries, ed., *The Indian Army, 1939–1947: Experience and Development* (Surrey, England: Ashgate Publishing Limited, 2012), pp. 157–178. For a more comprehensive analysis of post-Second World War operations, see Christopher Bayly and Tim Harper, *Forgotten Wars: Freedom and Revolution in Southeast Asia* (Cambridge, Massachusetts: The Belknap Press of Harvard University Press, 2007), originally published in 2006 by Penguin Group, United Kingdom.

² Marston, 159. The campaigns in Dutch East Indies (DEI) and French Indochina (FIC) began the same time. Those in DEI continued through most of 1946 while in FIC they concluded “for all intents and purposes” by March 1946. Marston, 163. Slim, now commander of Allied Land Forces South East Asia (ALFSEA) ordered the military occupation of Malaya, Burma, Dutch East Indies, and French Indochina. ALFSEA Operational Directive No. 8, 23 August 1945, Gracey 4/2, LHCMA.

³ Burma operations were for what the division was established and trained. Alan Jeffries, *The British Army in the Far East 1941–1945* (Oxford, Great Britain: Osprey Publishing, 2005), p. 50.

⁴ Area of responsibility included modern-day southern Vietnam, Cambodia, and parts of Laos. Marston, 163.

⁵ Marston, 168.

⁶ Marston, 172.

⁷ Simultaneously, the 80th and 32nd brigades cleared local areas and transitioned to French forces while the 100th pursued local fighters and patrolled outwards.

⁸ In early February 1946, nearly all the 20th Indian Division’s 12,000 personnel departed French Indochina. Two battalions remained to conduct guard duties until the end of March 1946, after which only “small miscellaneous sub-units remained” until May. Marston, 176–177.

The 20th Indian Division's experience in Indochina identifies themes that underlie this project and its conclusions about wartime adaptation and broader implications. To start, this example indicates how the impact of wartime adaptation often continues beyond immediate scenarios and may form the procedures used in future conflicts. New operational problems may be answered with previous solutions, shaping future tactics and battles. These ideas suggest how wartime tactical adaptation can be more complex than some may assume, as well as possibly more important when considering broader context, legacy, and implications. This broader perspective frames this final chapter, as it considers generalizable themes and implications about wartime tactical adaptation, operational performance, and achieving success.

This examination has not delivered a comprehensive answer to its primary research question: When does tactical adaptation enable operational success or failure, and when does it make no difference? However, patterns across the seven case studies suggest that failing to account for the relationship between tactical adaptation and operations, as measured by effectiveness and outcome, will deliver incomplete assessments of wartime change and its relationship with battlefield performance. In addition, evidence from across the cases suggests that failing to account for what conditions cause wartime tactical adaptation to be more or less effective at changing operational performance, and how different types of adaptation cause different effects on operational outcome, risks distorted assessments of wartime change. This chapter considers these findings within the larger subject of wartime change and their relevance for the future. It suggests three broad conclusions that will be explored throughout. First, that wartime tactical adaptation may deliver critical contributions to operational success or to preventing operational failure. Second, that using observable criteria about operational effectiveness to identify, measure, and rate performance, may enable more accurate assessments about changes in battlefield abilities and force capabilities. Third, that assessing operational outcome as a relative measure of efficiency between goals, resources, and time provides a useful measure for rating outcome. Overall, findings indicate how viewing adaptation as a process measured against purposes may deliver greater precision regarding wartime adaptation, improved understanding about its relationship with battlefield events, and offer a framework to develop generalizable

patterns toward a richer theory about wartime change. Specifically, the cases suggested how factors about the conditions for adaptation and types of adaptation may significantly influence the nature of change, its impact on performance, how it raises or lowers effectiveness, and to what degree it contributes to success or failure.

FINDINGS

By examining the relationship of tactical adaptation processes with operational performance and outcome, this analysis delivers a modest contribution to the subfield of wartime change regarding how tactical adaptation may alter effectiveness and contribute to success or failure. Significantly, this paper's analysis indicated that the project's tentative argument was incomplete. Rather than wartime tactical adaptation being capable of only reducing setbacks or allowing forces to exploit opportunities, this paper identified circumstances where wartime adaptation was a critical contribution to operational success or to preventing failure.

Furthermore, the cases supported assessments that a primary driver of wartime adaptation is operational setbacks and environmental challenges,⁹ although the existence of these challenges is not guaranteed to produce change. Additionally, the research supported assessments that failure to adapt entails risks while also displaying how, in some circumstances, these risks may not significantly undermine success or reduce effectiveness. Finally, and rather distinct, this study's findings suggested that wartime adaptation always entails some cost in resources or time.

Considering combat performance, this analysis developed and employed a model for identifying levels of battlefield effectiveness as well as criteria for assessing changes between them. Examining how wartime adaptation manipulated these tenets of effectiveness supported their employment as identifiers for measuring performance and how it may change. This analysis demonstrated the feasibility of assessing operational outcome as a measure of efficiency between goals and resources, providing a tool for use in other research. Thus, this refined framework and its use across the case studies contributes to a more complete understanding of what wartime adaptation can or cannot deliver, and how it may alter risks or costs.

⁹ Theo Farrell, Frans Osinga, and James Russell, eds., *Military Adaptation in Afghanistan* (Stanford, California: Stanford Security Studies, 2013), pp. 8-10.

Case Studies Summary

Seven cases explored how wartime tactical adaptation relates to operational performance and outcome, indicating how understanding this relationship may provide valuable insights into the processes of wartime change, its impact, and how these elements may be affected by different conditions and circumstances. Structured, focused comparison proved useful and appropriate to analyse the core elements of wartime adaptation, identify distinct lessons, and suggest broader conclusions about wartime learning.

Chapter Three examined the 1941–42 invasion of Burma and considered how inflexibility relates to performance and outcome. The success of IJA Fifteenth Army indicated how adaptation is not a prerequisite for operational success. Also, that inflexibility does not necessarily undermine effectiveness, as IJA forces fought using a doctrine designed for against the USSR in Manchuria yet consistently outperformed better-equipped defenders throughout the Burma jungle. This case displayed how a force may be inflexible yet experience no significant setbacks or require change when significantly more skilled than its adversary. For the British defenders, in contrast, their lack of adaptation exacerbated setbacks. However, these problems derived from a deeper, significant skill imbalance. This case suggests that, in some circumstances, once fighting begins then it may simply be too late to overcome core deficiencies in skill or readiness.

Chapter Four examined the British First Arakan Offensive that ended in abject failure as Japanese bunkers proved insurmountable for the larger attacking force. This case also considered how inflexibility contributes to failure, arguing that insufficient tactical adaptation exacerbated setbacks. With no changes after the invasion and retreat, British forces used standard frontal assaults against prepared positions that broke against the bunkers for six months. The 14th Indian Division pushed seven brigades against an enlarged regiment at Donbaik and Rathedaung, then suffered for two more months from IJA counterattacks. This case emphasized the value of skill, as a force inferior in numbers, equipment, and firepower repulsed a larger one that used its material advantages poorly.

In Chapter Five, British tactical adaptation for the Second Arakan Encounter indicated how wartime change may raise battlefield effectiveness and contribute directly to operational success. In contrast, the Japanese remained unchanged which

made them predictable and vulnerable. With the time, space, and resources to learn, British forces developed new tactics to fight in the jungle, counter IJA infiltration, and to overcome the defensive bunker system. This case suggests that wartime adaptation may deliver critical advantages to improve performance and contribute to operational success. On the other hand, unchanged tactics—even those with proven effectiveness—may create vulnerabilities through predictable patterns exploited by a learning adversary.

Chapters Six and Seven considered Long Range Penetration Groups (LRPG), and how their two operations indicated risks of wartime change. From 1943–44, tactical adaptations exacerbated costs, decreased effectiveness, and contributed to failure. These cases displayed how the absence of an external, higher authority to assess concepts allowed tactics to develop independently within the unit which contributed to failure.

Chapter Eight considered how British tactical adaptation during 1943 resulted in increased effectiveness and operational success for Fourteenth Army during the Imphal operation in 1944. At Imphal the new pivot system, patrols, and improved small-unit coordination prevailed against established IJA tactics. This case demonstrated how the British had learned to use existing resources in new ways, and suggests how wartime adaptation may deliver numerous relative advantages that can accumulate into larger, critical impact. On the other hand, the continued use of unchanged tactics by IJA Fifteenth Army exacerbated setbacks and contributed to failure. Thus, an unwillingness to adapt prior to operations may cost lives, resources, and failure, while inflexibility during them may raise costs and lower effectiveness.

Chapter Nine examined how British forces displayed high effectiveness in 1945 through central Burma to Meiktila. Fighting across three new environments, this case revealed how forces may improve performance and succeed despite no significant tactical change during the operation if preparations before the operation prove fundamentally sound. In short, changes before 1945 produced imbalances which delivered British success. This case suggests how wartime change before a specific operation can enable high effectiveness and deliver a sufficient foundation in concepts and shared practices so that no tactical adaptation is required during fighting. Also illuminated was a challenge for measuring operational effectiveness when assessments may be inflated by masked weaknesses.

Conclusions about Tactical Adaptation from Across the Case Studies

Findings suggest several general conclusions about wartime tactical adaptation and its relationship with operational performance and outcome. Derived from the case studies, these conclusions lack universal applicability but to ignore them may invite unnecessary risks or costs. First, wartime tactical adaptation may enable operational success when adaptation addresses a specific, critical, decisive shortcoming. Differences between the First Arakan Offensive and Second Arakan Encounter exemplified how precisely tailoring solutions against high-priority problems may overcome challenges. After pushing multiple brigades against a 3,600-member defensive force and suffering over 5,000 casualties against the bunkers, British leaders, planners, and staff officers studied what went wrong.¹⁰ Subsequent adaptations in infiltration assault techniques and firepower coordination overcame the challenges of suppressing, closing with, and penetrating the IJA defensive bunker systems. New small-unit skills with patrols and assaults enhanced tactical abilities, with defensive boxes and the pivot system overcoming problems associated with IJA infiltration. These changes directly raised effectiveness, contributed significantly to success, and the second operation attained all objectives as planned. The British also suffered less. The larger operation cost 3,506 casualties across four divisions compared with the IJA's 5,000.¹¹ Wartime adaptation enabled British forces to overcome the slow, ineffective frontal assaults by using infiltration tactics supported by patrols, to penetrate the bunkers with coordinated infantry and armour, and to withstand IJA counterattacks through pivots and boxes.

Second, wartime tactical adaptation may contribute to operational success when forces are very closely matched. Imphal is the key example for this conclusion. Adaptation delivered relative gains across IV Corps and XXXIII Corps that accumulated to larger benefits and shattered IJA Fifteenth Army. During the critical first six weeks when elements of the IJA 33rd Division surprised and encircled the 17th Indian Division near Tiddim, the latter applied new defensive

¹⁰ British suffered 916 killed, 2,889 wounded, 1,252 missing. T.R. Moreman, *The Jungle, The Japanese and the British Commonwealth Armies at War 1941–1945: Fighting Methods, Doctrine and Training for Jungle Warfare* (New York: Routledge, 2013), p. 76, first published 2005.

¹¹ Moreman, *The Jungle*, 122; William J. Slim, *Defeat into Victory: Battling Japan in Burma and India, 1942–1945* (New York: Cooper Square Press, 2000), p. 243, updated introduction with unabridged republication of the edition originally titled *Defeat Into Victory* published in 1956.

boxes and small-scale counterattacks to endure the assault. Next, it broke the IJA roadblock and fought along the 160-mile road, coordinating battles, movement, and resupply back to the plain. There, the entire IV Corps was isolated, and its four divisions battled for three months. For the 5th Indian Division at Nungshigum Hill, the 20th Indian Division at Moreh against the 33rd Division Yamamoto Brigade Group, and at Kohima against the IJA 31st Division, forces effectively applied new tactics to withstand the critical opening assault when “crises might have slipped into disaster.”¹² Several of the battles were quite close and could have ended differently without the relative advantages gained through the new tactics.

Third, tactical adaptation may contribute to larger effects in the operational realm and possibly beyond. An obvious way is for benefits and advantages to aggregate across the tactical level to produce broader, significant impact due to their sum. Seen in the British development of tactics to defeat the IJA bunkers, a few changes in firepower coordination and assault techniques delivered advantages that, essentially, overcame the few, key obstacles and consistently defeated the defences. In addition, examples suggest that tactical adaption may deliver more significant changes in effectiveness and capabilities than only a summation of advantages. In the Second Arakan Encounter, Imphal, and parts of the breakout to Meiktila, tactical adaptations increased British effectiveness and capabilities so that in some instances the effects appeared larger than simply aggregating. Rather, they combined synergistically and contributed higher-level impacts. At Imphal, relatively minor changes across a large force delivered critical advantages in numerous tactical engagements that, eventually, caused an IJA army to collapse. In contrast, the IJA shortcomings and setbacks cascaded from defeat into disaster. This finding would suggest that assuming tactical adaptation can never deliver more than minor contributions would be inherently flawed.

Fourth, change always entails some cost in time or resources, and often both. This lesson is obvious in the examples of shortcomings like the LRPG. The first operation pulled 3,000 personnel for over a year in a mission that failed to attain objectives and suffered 26% casualties with nearly all remaining members needing

¹² Slim, 315.

significant recuperation.¹³ Then, by the second operation, Special Force had expanded to 20,000 personnel—nearly a corps—and this expansion meant that by 1944 the LRPG held one-sixth of all infantry available for operations in Burma.¹⁴ Yet successful adaptations entailed costs, too. The changes between the two battles across Arakan, which delivered possibly the greatest increase of abilities and effectiveness, all required time, resources, and human capital to develop and implement. The establishment of an Infantry Committee, the creation of new training centres, the change in personnel policy to deliver the infantry with improved recruits, the workshops and study sessions, the movement of existing units to the India–Burma theatre and retraining them in jungle warfare—in a doctrine which had to be developed—and then re-training them in-theatre, all required people, organizational capital, institutional support, resources, and time, before solutions to fairly straightforward problems appeared on the battlefield.¹⁵ These expenditures may prove to be a wise investment and save future costs—a conclusion supported when considering the Imphal operation and the IJA cascade into disaster. However, results are not assured. Therefore, the decision to implement changes during wartime must be considered relative to the costs required, likely outcomes, and risks of inaction. In some cases, the saved costs in resources and time may be more valuable than potential gains from change.

Fifth, in some cases tactical adaptation may be unnecessary. In Burma, this situation occurred when forces possessed the greatest difference in relative capabilities, seen in the initial IJA invasion and the final British push. These cases indicated how failure to adapt will not necessarily prevent success, but also how success relied on other factors. In these cases, the larger imbalances in skill meant that adaptations were unnecessary. During 1942, IJA 55th and 33rd divisions experience no significant setbacks against unready defenders and it seems unlikely that any IJA modifications or adjustments would have delivered significant

¹³ Time calculated as the 77th Indian Brigade formed in July 1942 through the end of first operation in June 1943.

¹⁴ S. Woodburn Kirby, *The Decisive Battles*, History of the Second World War United Kingdom Military Series Volume III, edited by James Butler (Uckfield, East Sussex: The Naval & Military Press Ltd, 2004), p. 443, originally published in 1961.

¹⁵ For a sense of time, the Infantry Committee formed in May 1943 and assembled in June; the new tactics first appeared in January 1944 as XV Corps moved down the Arakan with 5th and 7th Indian divisions revealing the new abilities during the early stages of the Second Arakan Encounter.

improvements. Similarly, the British push to Meiktila in 1945 required no tactical adaptation despite vulnerabilities in river crossings and city fighting that could have been addressed but proved unnecessary. When things are going well there may be no need to change. Militaries that fail to adapt may *risk* defeat, but it is not assured.

This point leads to a corollary implication about measuring effectiveness for the study's sixth conclusion: that effectiveness may be most difficult to measure when forces are imbalanced. It might be particularly hard for winners due to overconfidence in existing techniques or inflated assessments of their performance. Without a thorough audit of combat to identify shortcomings, vulnerabilities may pass untested or unnoticed. This scenario could fail to identify the severity of vulnerabilities and lack a clear incentive for change. Hence, success may deliver inflated assessments of effectiveness and abilities. Assessing Fourteenth Army in the breakout to Meiktila suggests how fighting a weakened adversary may contribute some vagueness when evaluating performance. Until the determined resistance around Meiktila airfield, Japanese defence around the Chindwin and Irrawaddy rivers was intentionally light as the Burma Area Army repositioned southward to consolidate its forces and defend higher priorities. One result was that, when faced with new environments and new procedures while driving across the dry plains of central Burma, the advancing units moved relatively unopposed. Similarly, despite some fierce fighting among small units near the Irrawaddy River, the larger operation was largely unopposed. This scenario allowed XXXIII Corps and, critically, IV Corps crossers to overcome initial mistakes, setbacks passed relatively unpunished, and points of vulnerability passed untested. In Meiktila town the IJA garrison failed to employ a more determined defence tailored to exploit the town's terrain, allowing 17th Indian Division to employ unchanged tactics. It remains unclear whether the British could have attained high performance had the Japanese challenged them sooner or harder. This outcome suggests that it is easier to appear highly skilled when one's vulnerabilities are not tested and therefore forces may appear more effective in certain circumstances which are less applicable to others. This point may seem intuitive or even blatantly obvious—that things become easier

for an army when resisted less—but the point bears remembering when assessing battlefields since overlooking it may encourage incorrect assessments.¹⁶

Hypotheses Results About Conditions and Types of Adaptation

Findings supported the importance of the existence of conditions for information sharing and the role of human skill in wartime tactical adaptation, while the relationship between anticipation and improvisation was unclear. These conclusions derived from the three hypotheses that measured this study's two secondary research questions: What conditions cause wartime tactical adaptation to be effective at changing operational performance? How do different types of adaptation cause different effects on operational outcome?

One conclusion is that tactical adaptation based primarily on a formal, centralized mechanism for storing, evaluating, and disseminating change is likely to increase effectiveness and result in operational success. One tentative conclusion is that a skill imbalance can be at least as dangerous as a technological imbalance, so that the need to adapt through training may be as valuable as increased resources, equipment, or technological sophistication. Another may be that while improvisation can assist in modifying tactics and adjusting procedures once fighting has begun, larger changes incorporated before fighting begins are most likely to deliver the greatest impact—good and bad. A final tentative conclusion is that anticipation may be more favourable for exploiting advantages, while improvisation may be necessary for reducing costs and preventing disaster. Specific results, listed in the tables on following page and discussed below, most strongly support H1 and H3 while H2 is neutral. For more distinction across these cases and categories, using a numerical scale from +2 to -2 makes clear how findings supported H1 and H3.

¹⁶ For example, one may argue that much analysis regarding the 1991 Gulf War and its implications for subsequent conflicts would have produced different conclusions or recommendations had the multinational coalition faced a more rigorous test. Consequences may have altered campaign planning during the 1990s, to include the 1999 NATO air operations in Kosovo, as well as assessments of U.S. military capabilities during the early stages of the U.S. Global War on Terror, particularly in Iraq.

Figure 10.1: Findings for Hypotheses Using Measurement Scale

Measurement Scale: (+) Affirm \Leftarrow Support \Leftarrow Neutral \Rightarrow Dispute \Rightarrow Contradict (-)

	INVASION 1942	FIRST ARAKAN 1942–43	SECOND ARAKAN 1944	FIRST LRPG 1943	SECOND LRPG 1944	IMPHAL 1944	BREAKOUT 1945
H1: CENTRAL	NEUTRAL	SUPPORT	AFFIRM	SUPPORT	SUPPORT	AFFIRM	SUPPORT
H2: ANTICIPATE	DISPUTE	DISPUTE	AFFIRM	DISPUTE	DISPUTE	SUPPORT	NEUTRAL
H3: SKILL	AFFIRM	AFFIRM	AFFIRM	NEUTRAL	NEUTRAL	SUPPORT	SUPPORT

Figure 10.2: Findings for Hypotheses Using Weighted Scale

Measurement Scale: (+2) Affirm \Leftarrow (+1) Support \Leftarrow (0) Neutral \Rightarrow Dispute (-1) \Rightarrow Contradict (-2)

	INVASION 1942	FIRST ARAKAN 1942–43	SECOND ARAKAN 1944	FIRST LRPG 1943	SECOND LRPG 1944	IMPHAL 1944	BREAKOUT 1945	SUM
H1	0	+1	+2	+1	+1	+2	+1	+8
H2	-1	-1	+2	-1	-1	+1	0	-1
H3	+2	+2	+2	0	0	+1	+1	+8

Hypothesis 1 (H1) considered information mechanisms, movement, direction, and dissemination. H1 stated: “Tactical adaptation captured and disseminated through a centralized vertical mechanism is more likely to result in operational success than when shared across decentralized horizontal networks.” After its measurement across the case studies, H1 provided the paper’s most consistently-supported hypothesis as none of the cases contradicted it. Overall, the Indian Army’s ability to assess setbacks, devise solutions, and implement changes delivered increased effectiveness and contributed to operational success.

The strongest support for H1 came from the Second Arakan Encounter and Imphal operations, indicating how a centralized vertical information mechanism may prove critical. The Indian Army recognized a need to adjust practices in pursuit of improved performance, and derived solutions by assessing setbacks through

formal authority structures to determine, control, and revise doctrine. The development in 1943 of anti-bunker techniques and the pivot systems—applied so effectively during 1944—required a significant amount of personnel to function within a shared conceptual framework that was significantly different from before. This process was enabled largely by the central vertical information mechanism that facilitated solutions and incorporated them throughout the infantry and supporting elements. Led by the new Infantry Committee and Director of Infantry, with subordinate staffs directed to address operational requirements, ideas could be considered, evaluated, and refined, followed by formal tasking to follow the revised methods and to teach them throughout the organization. Other official correspondence, particularly the *Army in India Training Memorandum*, shared additional guidance and contributed to a larger capacity for standardized practices, concepts, and training. At Imphal, Fourteenth Army's divisions and brigades repulsed the initial assault by countering Japanese infiltration tactics and roadblocks that had proved so devastating in 1942. Units also fought well in the jungle throughout the operation, cleared IJA bunkers, and employed the defensive pivot system developed the year before. These new combat techniques relied on a centralized vertical information mechanism to collect information for assessing challenges, comparing solutions, and disseminating new combat practices with the authority to task subsequent reorganization and training. As British forces outside the battlefield collected information, studied how to respond, and disseminated lessons, the elements closer to combat focused on training in the new skills rather than needing to seek new solutions on their own.

Four other cases provided evidence in support of H1. The 1945 breakout to Meiktila indicated how British collection, examination, and assessment of Japanese tactics had delivered appropriate solutions now incorporated across units with shared concepts and common training. A new foundation in small-unit infiltration, tactical combined-arms firepower led by infantry, procedures for clearing defensive bunker systems, and techniques for repelling Japanese attacks enabled Fourteenth Army to attain high effectiveness and to destroy two IJA corps. Having developed and implemented the new tactics, Fourteenth Army, and particularly IV Corps, experienced no significant setbacks while fighting in the plains, across the Irrawaddy River, and in Meiktila town. Other cases indicated the risks of lacking a

centralized, vertical information mechanism. Prior to the First Arakan Offensive, new ideas began to emerge that would prove correct in the future—increased patrolling, more aggressive small-unit tactics, and infiltrating behind IJA defences—but the lack of organizational prioritization or training centres undermined their larger adoption. Units, often with limited time to decide or to implement changes due to ongoing operational requirements, took various ad-hoc actions and produced guidance that was frequently unclear or contradictory. This decentralized process contributed to the resulting low effectiveness. Both operations by the LRPG indicated how the absence of an external authority allowed concepts to develop independently within the unit and contributed to failure. Prior to the first operation, there was no comprehensive vetting of ideas outside the brigade, and the unit did not participate in any formal institutional mechanism for information collection, integration, evaluation, or assessment. LRPG trained independently and employed an intra-unit process that produced directives and guidance but failed to reconsider underlying concepts. Neither the failure of Operation LONGCLOTH nor the post-operation assessments produced a significant change in core concepts or the method of assessing ideas, even as the brigade expanded to the 20,000-person Special Force. There remained no comprehensive vetting of ideas outside the unit with all assessments occurring internally but with limited staff review or evaluation. This process produced some new ideas in the stronghold concept, requiring forward-positioned air bases, floater brigades, aerial insertion and resupply, and drawing IJA regiments into battle, but ideas remained rooted in concepts from the first operation. Like that operation, it also produced a failure, albeit a costlier one.

Thus, **results supported H1**. Findings revealed that tactical adaptation based primarily upon a formal and centralized mechanism for storing, evaluating, and disseminating new techniques, procedures, or methods is likely to increase effectiveness and result in operational success. H1 supports arguments for increased degrees of centralization as they may enable greater and more efficient exploitation of core competencies—tactics, techniques, or procedures in a military force.¹⁷ A

¹⁷ General tenets of organizational theory in military adaptation from Theo Farrell, “Improving in War: Military Adaptation and the British in Helmand Province, Afghanistan, 2006–2009,” *The Journal of Strategic Studies*, Vol. 33, No. 4 (August 2010), pp. 570–571. See also James G. March, “Introduction,” in J.G. March, ed., *The Pursuit of Organizational Intelligence* (Oxford: Blackwell, 1999), p. 5, cited in Farrell, “Improving,” 570, footnote 12.

centralized organization can prioritize desired competencies, allocate resources, and ensure compliance with formal authority over a sustained period of time. It enables focusing on organizational needs and avoiding changes based solely on local conditions or short-term solutions.

Therefore, H1 supports theorists arguing that a centralized vertical information mechanism may deliver superior quality of ideas with greater impact, due to the mechanism's capacity for evaluating problems, devising solutions, and authoritatively disseminating new directives. First, results substantiated claims that a centralized vertical mechanism is uniquely effective at addressing large challenges and delivering appropriate solutions for broad change. This finding supports assessments that a centralized mechanism provides superior perspective for considering problems across a theatre of operations, combined with the organizational power to addressing them with thorough dissemination. As argued by Michael Doubler in his assessment of German and Soviet army learning during the Second World War, a "centralized and formal" technique allowed for study, dissemination, and implementation of new ideas with the advantage of addressing larger challenges beyond the capacity of smaller combat units.¹⁸ This study's examination of British experiences corroborated how information mechanism shapes the capacity to overcome challenges and to impact battlefield performance. Second, findings from H1 demonstrate how centralized vertical mechanisms may deliver high-quality improvements due to formal, directed study and experimentation. This result supports analyses about learning by other forces at the same time as the British in Burma,¹⁹ with similar benefits in other ground forces that employed formal, centralized processes to adapt, to overcome setbacks, and to increase proficiency.²⁰ The German army high command's process for conducting

¹⁸ Michael D. Doubler, *Closing With The Enemy: How GIs Fought the War in Europe, 1944–1945* (Lawrence, Kansas: University of Kansas Press, 1994), p. 278.

¹⁹ Such as the Soviet General Staff during 1943. See Doubler, *Closing*, 276-279; David M. Glantz and Jonathan House, *When Titans Clashed: How the Red Army Stopped Hitler* (Lawrence, Kansas: University of Kansas Press, 1995).

²⁰ See Russell A. Hart, *Clash of Arms: How the Allies Won in Normandy* (Norman, Oklahoma: University of Oklahoma Press, 2001), pp. 195-218; Allan R. Millett and Williamson Murray, *A War to be Won: Fighting the Second World War* (Cambridge, Massachusetts: Harvard University Press, 2000), pp. 54-55; Williamson Murray, *Experimental Units: The Historical Record*, Institute for Defense Analysis Paper P-3684 (Alexandria, Virginia: Institute for Defense Analysis, 2002); Williamson Murray, "The German Response to Victory in Poland: A Case Study in Professionalism," *Armed Forces and Society*. Vol. 7, No. 2 (Winter 1981), pp. 285-298.

assessments, identifying needs, and implementing new training programs to address critical deficiencies in small-unit skills and tactical combined-arms coordination²¹ were not completely different from the processes employed by British planners against the Japanese in Burma.²² As British planners collected information regarding Japanese tactics and operating concepts, the resulting examination, experimentation, and dissemination implemented new jungle tactics, infiltration attacks, and a defensive pivot system. Third, H1 supports claims that a centralized vertical information mechanism delivers high impact at a quick rate due to the ability to assemble a clear understanding of what must be accomplished. The British implemented new offensive and defensive tactics that proved successful as early as December 1943—less than two years after the invasion, and only eight months since the disasters in Arakan. This high impact in a relatively short time would appear to validate Stephen Rosen’s argument that the “more hierarchical and centralized the organization, the greater the impact of the innovation.”²³ Examples from Burma and their subsequent impact on effectiveness support claims that once an organization has assembled a clear picture of need then a central authority is able to implement it with the quickness necessary for improving performance.²⁴

Findings from H1 challenge notions that a decentralized horizontal information mechanism is essential or inherently superior for wartime adaptation. Early attempts to address shortcomings displayed in 1941 and early 1942 failed due to an uncoordinated, piecemeal process. Ideas developed across various units without thorough analysis or formal implementation, arising across the Indian Army at different locations, echelons, and units, but failed to take root and floundered before the First Arakan Offensive. This conclusion supports those who claim that decentralized mechanisms risks missed opportunities for larger learning, and may even lose solutions they do create. These conclusions challenge assessments that

²¹ For example, compared with German learning against Soviet armour, distances, terrain, weather, and overextension which “rendered existing doctrine inadequate” and required new defensive doctrine. Hart, 204, 214. The process also shared traits with how the Soviet army developed deep battle doctrine during the war. See Glantz and House, *When Titans Clashed*. For an examination of the intellectual development of deep battle, see Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (Tel Aviv: The Cummings Center for Russian and East European Studies, 1997), pp. 10-14, reprinted in 2004 by Frank Cass.

²² Millett and Murray, *A War to be Won*, 54-55.

²³ Stephen Peter Rosen, *Winning the Next War: Innovation and the Modern Military* (Ithaca, New York: Cornell University Press, 1991), pp. 38-39.

²⁴ Rosen, *Winning the Next War*, 39.

informal, decentralized information movement is vital for driving innovation with superior ideas and broad impact.²⁵ In the cases from Burma, the lack of ideas or insufficient movement did not cause the larger shortcomings; rather, it was the lack of direction, prioritization, and institutionalization of new process that was missing in 1942 and early 1943. Afterwards, it was precisely this interference of higher, official authority that contributed to developing new tactics and increasing effectiveness.²⁶ The cases corroborated claims that the ability to disseminate changes is vital—often supported by the capacity and authority of a formal, centralized system. In this sense, the development of new jungle doctrine, particularly in the fourth *MTP9*, and dissemination of updated ideas through *AITMs*,²⁷ as well as training according to the new methods, would support the importance of centralized direction and, implicitly, the risk inherent to decentralized mechanisms and their reduced impact even when ideas are good.²⁸

Hypothesis 2 (H2) considered adaptation type, specifically anticipation compared with improvisation. H2 stated: “Tactical adaptation based on anticipation will outperform tactical adaptation based on improvisation in delivering operational success.” Unexpectedly, H2 received the greatest variation in findings with four of the possible five ratings. This result did not derive from a lack of impact; rather, the range of impact varied from enabling success to contributing to failure. One tentative conclusion may be that while improvisation can assist in modifying tactics and adjusting procedures once fighting has begun, larger changes are most likely incorporated before fighting begins, which often deliver the greatest impact—good and bad. A second tentative conclusion may be that anticipation is more favourable for exploiting advantages, while improvisation may be necessary for reducing costs of setbacks and preventing disaster.

²⁵ John A. Nagl, *Learning to Eat Soup with a Knife: Counterinsurgency Lessons from Malaya and Vietnam* (Chicago, Illinois: University of Chicago Press, 2005), p. 10, updated edition, originally published in 2002 by Praeger.

²⁶ Nagl, 221-222.

²⁷ *Military Training Pamphlet No. 9 (India) The Jungle Book*, Fourth Edition (Delhi: General Staff, India, September 1943). The shift to training for jungle fighting began, most substantially, with *Army in India Training Memorandum, No. 21 War Series June 1943* (Delhi: Manager of Publications, 1943).

²⁸ Niccolò Petrelli, “Deterring Insurgents: Culture, Adaptation and Evolution of Israeli Counterinsurgency, 1987–2005,” *The Journal of Strategic Studies*, Vol. 36, No. 5 (2013), pp. 666-691; Rosen, *Winning the Next War*, 130-147.

The strongest example supporting H2 is the Second Arakan Encounter. Facing the known problems of IJA defensive systems and infiltration tactics, British planners devised solutions for breaking the bunkers and using new pivot defences. Both relied on a foundation of infiltration techniques and jungle tactics that were incorporated across units before the operation. Once prepared with these measures, British forces faced essentially no setback for which they were completely unprepared or unable to overcome. The 7th Indian Division responded as practiced when facing the critical IJA assault around the Admin Box, and the 5th Indian Division cleared the Razabil bunker system after minor adjustments between infantry and supporting firepower enabled them to close, consolidate, and repulse counterattacks. Combined with the skills gained through H1, units employed the new tactics and attained clear advantages over IJA units and situations which had presented significant challenges the year before.

Imphal also supported H2. British forces appropriately planned new tactics in small-unit combined-arms firepower, patrolling and roadblocks in the jungle, as well as defensive boxes with resupply and counterattack, and throughout the operation Fourteenth Army executed them effectively against Fifteenth Army. With this sound foundation, British units experienced no major setbacks or surprises to challenge their underlying concepts. Importantly, Fourteenth Army prevailed in several critical moments early in the operation when the new tactics proved essential for overcoming IJA attacks and shifted circumstances to favour the British. By mid-April, units at Kohima, Nungshigum Hill, and further south against 33rd Division, all employed the new tactics to overcome significant threats. The extrication of 17th Indian Division from encirclement by 33rd Division likely avoided losing the unit and removed a critical threat to IV Corps.

In contrast, four cases challenged H2 and presented a key problem with relying on anticipatory adaptation: it can be wrong. Pre-war preparations in Burma for domestic internal defence and other preparations for open warfare against the Germans produced a force unready to fight the Japanese. The First Arakan Offensive indicated how relying on established tactics can exacerbate setbacks and cause costs to cascade. After initial encounters in January 1943, the 14th Indian Division consistently applied the same, ineffective tactics with the 123rd Indian Brigade, 55th Indian Brigade, 88th Indian Brigade, 71st Indian Brigade, and the 6th

British Brigade. Later, both operations by the LRPG indicated risks of anticipatory adaptation when expectations failed to meet reality. Against IJA offensive tactics and superior jungle movement in Operation LONGCLOTH, the resulting solution of penetration and harassment to force Japanese repositioning simply failed to produce that outcome. After these setbacks, the resulting idea of strongholds with floater columns proved either incorrect or too difficult to execute. The LRPG possessed insufficient firepower and were unable to hold the defensive positions—the core tenet of the new stronghold concept. LRPG also became easier to attack while losing manoeuvrability, previous strengths of the columns. In both cases, adaptation undermined core tenets of anticipation's expected virtues: that enhanced perspective from more information, greater insight about current developments, and additional foresight regarding goals and actions, would deliver solutions tailored appropriately to overcome critical setbacks with crucial advantages for improving performance. These examples did support how anticipation may have significant impact, as anticipatory adaptation produced significant amounts of change across purposes, roles, and mission, and delivered substantial impact on performance and outcome. Unfortunately for the British, this impact undermined effectiveness, contributed to failure, and exacerbated costs.

Thus, **results were neutral for H2**. In some cases, anticipation was critical to overcoming setbacks and delivering success, but in others it reduced effectiveness and contributed to failure. These results suggest that further analysis may deliver a greater understanding about the nuances between improvisation and anticipation, and how they may combine for greater effects. Still, some conclusions are possible regarding theories about wartime change. Importantly, the cases indicated value in using anticipation and improvisation as distinct concepts for analysis even though they are related and likely interact in practice. Findings supported claims that anticipation may deliver high impact, while challenging notions that it will necessarily create superior ideas for effective adaptation—even though it can. British learning after the First Arakan Offensive and subsequent increased effectiveness in the Second Arakan Encounter, Imphal, and breakout operations all supported how the increased perspective, foresight, collaboration, and time to address battlefield problems may deliver solutions tailored specifically and appropriately for operational needs. Tactical reforms in jungle fighting, small-unit

infiltration, bunker tactics, and the pivot system reflected virtues of anticipatory adaptation, supported by events displayed elsewhere during war.²⁹ These examples corroborated how higher staff and thinkers may possess a perspective uniquely suited for wartime adaptation due to greater insight of current developments, and additional foresight regarding future goals. However, the examples of LRPG indicated how anticipation is not guaranteed to deliver effective adaptation. The two operations may reflect claims that a prerequisite for effective anticipatory adaptation is a perspective higher than the unit engaged in combat.³⁰ In Peter Mansoor's analysis of Second World War U.S. Army infantry, he concluded that adaptation had to occur at the division since lower units "were too focused on the current battle."³¹ A modification of this logic may deliver useful explanatory value to the failures of LRPG in that their perspective was too low. This point appears stronger when considering how, in cases of successful adaptation, the British division, corps, and army leadership often played roles refining and disseminating new ideas. This scenario would support arguments that higher input may be vital for improving combat performance.³²

Hypothesis 3 (H3) considered the nature of change during tactical adaptation by comparing skill with technology. H3 stated: "Tactical adaptation based on new training or unit reconfiguration, rather than new or modified equipment, is more likely to result in operational success since it increases skill or reduces organizational barriers to employing existing technology." One tentative conclusion from H3 is that a skill imbalance can be at least as dangerous as a technological imbalance. The need to adapt through training may be as valuable as increased resources, equipment, or technological sophistication.

²⁹ Notably the German army preparations to counter Allied amphibious assault at Normandy and the Allied predictions of challenges with the assault. See Hart, 221-228; Millett and Murray, *A War to be Won*, 413. See also Japanese anticipation at Iwo Jima in Max Hastings, *Retribution: The Battle for Japan, 1944-45* (New York: Random House, 2007), p. 264, originally published in United Kingdom as *Nemesis: The Battle for Japan, 1944-45* (Harper Press, 2007).

³⁰ Peter R. Mansoor, *The GI Offensive in Europe: The Triumph of American Infantry Divisions, 1941-1945* (Lawrence, Kansas: University of Kansas Press, 1999), pp. 165-196. Mansoor concluded that adaptation had to occur at the division since lower units were focused on the immediate battlefield. See also Robert H. Scales Jr., *Firepower in Limited War* (Washington, DC: National Defense University, 1990), pp. 165-196.

³¹ Mansoor, *The GI Offensive*, pp. 153-154.

³² Mansoor, *The GI Offensive*, 154, 5.

Across the cases, H3 received the highest positive rating in three of them, the most of all the hypotheses. During the Japanese invasion, IJA attackers exploited a significant skill imbalance as the less-equipped, less-advanced, numerically-even attackers attained clear success. Next, the First Arakan Offensive reinforced the importance of skill over technology as IJA defenders repeatedly repulsed a numerically-superior attacking force armed with more advanced equipment by using a relatively uncomplicated bunker system and small arms. After the British learned how to use their existing equipment through new concepts and training, the Second Arakan Encounter displayed how new tactics coordinating firepower and assaults produced a very different outcome. Also during that operation, XV Corps employed the new pivot system as part of a broader change in defensive concept that used boxes and mobile reinforcements. This reconceptualization, requiring units to withstand attacks while mobile assault teams countered, enabled British forces to repulse the IJA infiltration attacks which had been devastating in 1942.

Two other cases provided solid evidence supporting H3. Across Imphal in 1944, British forces applied their new ability to counter IJA infiltration tactics, to fight through the jungle, and to counterattack IJA forces, employing three new tactics that relied almost exclusively on enhanced skills. In addition, the defensive boxes, breaking of IJA roadblocks, and clearing entrenched defenders, all used existing technology through improved coordination and a more effective application, rather than any new technological sophistication. The employment of these new tactics enabled decisive battlefield advantages during the critical early battles of April 1944, and then delivered devastating setbacks to the IJA throughout the next three months that gutted Fifteenth Army as a fighting force. Next, in the breakout to Meiktila, British forces consistently applied superior small-unit, infantry-led combined-arms firepower for significant impact, without any specific technological enhancement. The consistent, coordinated application of existing technology contributed to British advantages and IJA setbacks rather than any modernization or technological advancement.

Thus, **results supported H3**. Findings revealed that tactical adaptation based primarily upon increasing skill through reorganization or training is likely to increase effectiveness and contribute to operational success. Therefore, H3 supports theorists favouring skill as primarily important for wartime tactical adaptation.

Foremost is Stephen Biddle's argument that human skill remains fundamental to understanding battle outcomes, warning about over-emphasizing the relevance of technological developments when assessing combat events.³³ British improvements in Burma corroborate Biddle's claim that how forces use equipment, weapons, and terrain, is more important than the technological modernization of equipment or material. Analyses examining only technological imbalances would be incomplete (and likely inaccurate) since they omit human skill and error which can be critically important.³⁴ The failures of British defenders in 1942 and the flawed attacks in the First Arakan Offensive are obvious examples, as forces armed with equipment of greater technological sophistication were repeatedly out-fought and defeated. Imphal serves as a less-obvious but possibly more important example in support of Biddle's argument, as British forces fought numerous closely-contested battles that required their new abilities to produce larger victory. These examples warn about overlooking human skill for employing technology, and the potential benefits of improving skill. They also support how assessments relying on a technology-centric narrative risk "serious misjudgment of states' real military power."³⁵

H3 addresses part of a large topic in security studies, challenging a narrow subset of ideas and indicating larger questions to study. First, H3 challenges arguments claiming that technological advancements deliver the critical advantage for battlefield success and the key criteria for innovation, to include wartime adaptation. Whether the post-Gulf War Revolution in Military Affairs³⁶ or the more-

³³ Stephen Biddle, "Victory Misunderstood: What the Gulf War Tells Us About the Future of Conflict," *International Security*, Vol. 21, No. 2 (Fall 1996), pp. 139-179; Stephen Biddle, "Explaining Military Outcomes," in Risa Brooks and Elizabeth Stanley, eds., *Creating Military Power: The Sources of Military Effectiveness* (Stanford, CA: Stanford University Press, 2007), pp. 207-227; Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton, New Jersey: Princeton University Press, 2004).

³⁴ Biddle, "Victory Misunderstood," 139.

³⁵ Biddle, "Victory Misunderstood," 140.

³⁶ For the development of the concept of a Revolution in Military Affairs (RMA), see Stephen Peter Rosen, "The Impact of the Office of Net Assessment on the American Military in the Matter of the Revolution in Military Affairs," *The Journal of Strategic Studies*, Vol. 33, No. 4 (August 2010), pp. 469-482. For additional analysis, see Richard O. Hundley, *Past Revolutions, Future Transformations: What can the history of revolutions in military affairs tell us about transforming the U.S. military?* (Santa Monica, CA: RAND National Defense Research Institute, 1999); Robert C. Martinage and Michael G. Vickers, *The Revolution in War* (Washington, DC: Center for Strategic and Budgetary Assessments, 2004); Barry D. Watts, *The Maturing Revolution in Military Affairs* (Washington, DC: Center for Strategic and Budgetary Assessments, 2011).

recent Third Offset Strategy,³⁷ the cases from this study suggest that prioritizing only technological advantages as decisive in warfare and relegating human skill as a low priority may contribute to unexpected costs on future battlefields. Non-material factors may be essential to recover from setbacks, justifying warnings about “technological utopians” that underestimate war’s human elements and unpredictability.³⁸ Second, even more than the other hypotheses, H3 hints at larger categories for future analysis about how technological modernization combines with human agency for effective employment. The British and Japanese experiences in Burma deliver conclusions about only a small sub-set of this topic, leaving much more to study in these cases or across others.

ACADEMIC IMPLICATIONS AND FURTHER STUDY

This project began with a puzzle about why some forces conduct tactical adaptation more successfully than others, and how this situation shapes operational performance and outcome. While unable completely to fill the existing gap between tactical adaptation and its relationship with operations, by building upon previous scholarship this research endeavoured to reduce it. The resulting implications regard how adaptation may be considered, how it may be tailored, and the value in using effectiveness as a measure of impact. These findings deliver new themes for analysis about unit relationships, technology, and military innovation.

Adaptation as a Process Rather Than Outcome

This analysis used a refined definition for tactical adaptation that enabled a more comprehensive assessment of the topic, and future analyses may benefit from its greater distinction. By considering tactical adaptation as “changed methods, techniques, or procedures to make people, units, or equipment suitable for new combat purposes or different combat conditions in a repeated or shared manner,”

³⁷ Term introduced in 2014. See Robert Work, “The Third Offset Strategy and Its Implications for Partners and Allies,” speech delivered at the Willard Hotel (Washington, DC, 28 January 2015), available at <http://www.defense.gov/News/Speeches/Speech-View/Article/606641/the-third-us-offset-strategy-and-its-implications-for-partners-and-allies>. See also Shawn Brimley and Robert O. Work, *20YY Preparing for War in the Robot Age* (Washington, DC: Center for New American Security, January 2014).

³⁸ MacGregor Knox and Williamson Murray, “The Future Behind Us,” in MacGregor Knox and Williamson Murray, eds., *The Dynamics of Military Revolution 1300–2050* (New York, New York: Cambridge University Press, 2008), p. 179, Seventh Printing, originally published 2001.

this perspective focused earlier in the assessment process compared with some contemporary viewpoints.³⁹ This reorientation allows to consider how forces examine problems and choose to devise solutions—or not—rather than using the result to determine if events constituted adaptation.

Specifically, considering adaptation to be a process rather than an outcome may avoid the “bad habit” of viewing events and working backwards which can make analysts “overlook roads not taken.”⁴⁰ By considering adaptation as a series of decisions by people attempting to chart a course forward in times that are often uncertain or confusing, considering alternative options and failed initiatives may deliver new insights about how future forces may improve performance and find success. Particularly relevant is how it avoids focusing solely on successful adaptation, which risks overlooking mistakes or how inputs that deliver success in some circumstances may not provide the same result in others. The former can warn about actions to be avoided, while the latter may indicate how some solutions are inappropriate. This perspective enables an enhanced ability to understand the process of identifying needs, how different conditions and types of change influence solutions, crafting responses—to include no action—as well as the subsequent impact on battlefield events. This comprehensiveness in studying the adaptation process may also provide increased richness when seeking generalizable patterns of wartime change. Thus, examining adaptations that failed may deliver contributions to contemporary security studies as well as future decision-makers, comparable with those of effective wartime change.⁴¹ Combined with examining opportunities that

³⁹ This conceptualization challenges those with a clear division between adaptation and change. For example: “One also has to distinguish between adaptation and change. Effective adaptation involves reforms that contribute to final victory or to enhanced military effectiveness, whereas change is modification that brings no discernible improvement in performance.” Hart, 4. Like most works since 2006, the definition used in this thesis builds upon the conceptual foundations laid by Adam Grissom and Theo Farrell, with slight alteration. Since Grissom is considering the broader topic of military innovation, this thesis includes his consideration of change but not his requirement for a significant increase in effectiveness, considered premature for this analysis. For Grissom, “a tacit definition of military innovation that is, approximately, ‘a change in operational praxis that produces a significant increase in military effectiveness’ as measured by battlefield results.” Adam Grissom, “The Future of Military Innovation Studies,” *The Journal of Strategic Studies*, Vol. 29, No. 5 (October 2006), p. 907. Italics added. This definition may be compared with Farrell’s definition, “military adaptation is here defined as change to tactics, techniques or existing technologies to improve operational performance.” Farrell “Improving in War,” 569.

⁴⁰ Williamson Murray, “May 1940: Contingency and Fragility of the German RMA,” in Knox and Murray, eds., *The Dynamics of Military Revolution*, 156.

⁴¹ For example, Chinese Nationalist forces adapting to conduct small unit warfare against Japanese forces in 1938–1942 for the battles of Zaoyang–Yichang and Changsha; Chinese

were missed,⁴² the results may deliver enhanced understanding about wartime adaptation and an improved repertoire of choices for decision-makers when faced with uncertainty or setbacks during wartime. The ultimate contribution may be better decisions that reduce unnecessary costs in lives and resources.

Purposeful Adaptation and Appropriate Evaluation

This study also demonstrated the value in evaluating wartime tactical adaptation against operational goals using a relative measure of costs in their pursuits, with three implications. First, and most simply, this study confirms that operational setbacks and environmental challenges may be drivers of wartime adaptation although they do not necessarily cause forces to adapt.⁴³ While a comprehensive analysis of what causes or inhibits wartime change lies beyond this project, it is worth noting that the most effective adaptations in this study specifically addressed battlefield problems relating to the adversary and environment. The least-successful changes addressed only general conceptualizations. In the face of clear operational challenges, the lack of adaptation risked larger disaster. This conclusion does not deny that many organizations face barriers to change;⁴⁴ nor does it attempt to enter the larger debate concerning military-led versus civilian-led wartime innovation.⁴⁵ However, from these cases it is reasonable to conclude that operational and environmental problems may contribute to wartime tactical adaption, and therefore deserve consideration in future assessments of wartime change.

Second, the relationship between wartime tactical adaptation and operational outcome during mid-to-high intensity ground combat delivers insights into the

Communist forces adapting to mobile warfare in 1940 for the Hundred Regiments Offensive; the Viet Minh's struggles against the French in 1951, as discussed in the paper's opening vignette.

⁴² For example, the Japanese in Burma from 1942–45.

⁴³ Drivers from Farrell, Osinga, Russell, 8–10.

⁴⁴ Recent examples include Caitlin Talmadge on how regime-type alters organizational priorities which shape military effectiveness; Michael Horowitz on how groups may integrate new technologies and practices; Sergio Catignani on how militaries lose new ideas. See Sergio Catignani, "Coping With Knowledge: Organizational Learning in the British Army?" *The Journal of Strategic Studies*, Vol. 37, No. 1 (2014), pp. 30–64; Michael C. Horowitz, *The Diffusion of Military Power* (Princeton, New Jersey: Princeton University Press, 2010); Caitlin Talmadge, *The Dictator's Army: Battlefield Effectiveness in Authoritarian Regimes* (Ithaca, NY: Cornell University Press, 2015).

⁴⁵ From Chapter One, this debate remains framed by analyses of Barry Posen and Stephen Rosen. Posen emphasized military-led change while Rosen argued the importance of civilians. See Barry R. Posen, *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars* (Ithaca, New York: Cornell University Press, 1984); Rosen, *Winning the Next War*.

phenomenon of wartime change, and indicates that a causal relationship may be discerned in some circumstances and under certain conditions. Critically, tactical adaptation possesses the capacity to enable success as measured by operational goals, seen in the Second Arakan Encounter, Imphal, and Meiktila operations. Additionally, the lack of adaptation may exacerbate setbacks and contribute to failure, displayed by the British during the invasion, First Arakan Offensive, and by the IJA across most of their operations. Finally, in some circumstances, tactical adaption may contribute to operational failure, like in the LRPG. These cases indicate how the relationship between wartime tactical adaption as measured against operational performance and outcome is relevant but requires additional study to gain a more comprehensive understanding of the relationship. An improved understanding may then deliver additional insights into the broader topics of military adaptation and innovation. This conclusion challenges assessments that consider tactical adaption in isolation without considering the subsequent operational implications. For example, an analysis of tactics for countering improvised explosive devices (IEDs) in Iraq after 2003 would be incomplete without assessing how the improved counter-IED efforts contributed to operational goals; a consideration of improved convoy protection in U.S. counterinsurgency campaigns may be incomplete without assessing how the improved movements contributed to enhanced battlefield performance; and an assessment of duelling sniper tactics in Afghanistan could be misleading about their relevance if analysed alone. Focusing solely on tactical improvements without considering their contribution to larger goals will produce incomplete and misleading accounts because they measure tasks removed from purpose.

Third, this analysis indicates how examining the impact of tactical adaptation on operational performance may be a prerequisite for understanding the larger question about how “bottom-up” adaptation can transmit to higher levels. How tactical changes transmit into larger advantages—or fail to do so—remains a significant question with academic and policy implications.⁴⁶ While the link between tactics and operational goals is inherently limited in its perspective, this relationship maybe be considered a foundation for larger change. This conclusion

⁴⁶ This question about the transition from bottom-up adaption into larger innovation discussed by Grissom in “The Future of Military Innovation Studies.”

would challenge assumptions that tactical adaption may bypass the operational realm to benefit strategic goals because this conceptualization would misalign tactics, operations, and strategy. Tactical changes that support the strategic level but not the operational one likely indicate a misalignment of methods, ways, and goals. In Burma, this problem could be observed in the LRPG as strategic interests supported adaptation despite failures at the operational realm. The outcome was additional costs and limited military value. Two warnings result. First, do not assume strategic spill-over from tactical changes that do not contribute at the operational realm. Second, if tactical adaptations impact the strategic realm without contributing to operations then goals, ways, and methods may need realignment.

Case Study Theme for Further Study (1): Unit Relationships

The cases indicated additional themes about wartime adaptation, from which more analysis may deliver improved insights and a greater understanding of change during warfare. The first theme regards what relationship of units delivers better opportunities and conditions for improving wartime performance, as several of the cases indicated how the relationship of units conducting adaptation may affect the quality of change and how it alters effectiveness or outcome. Specifically, whether units adapted better when working concurrently or in succession. The former would emphasize ideas moving across space, while the latter on changes across time.

In Burma, three operations suggested that a successive employment of units may improve tactical adaptation. For the Second Arakan Encounter, the arrival of new British divisions in a sequential process specifically enabled the new units to learn the updated tactics that would enhance future performance. At Imphal, all the British divisions were new apart from the 17th Indian Division which was substantially reorganized and retrained since 1942.⁴⁷ While away from operations in Burma, the units had been retrained in accordance with the updated tactics that delivered improved effectiveness during the five months around Imphal. In the breakout to Meiktila, the addition of units from outside the area brought improved tactical skills from their training and reorganization in India. The Japanese, in

⁴⁷ The 20th Indian Division was specifically created for the Burma–India–China theatre, the 5th Indian Division had prepared previously for the Second Arakan Encounter, and the 6th British Division arrived from outside the theatre.

contrast, remained in-theatre for these operations, and their lack of adaptation would suggest that nothing about concurrently deployed units necessarily enables tactical adaptation. At Imphal, Fifteenth Army's failure to adapt despite having experience in Burma since 1942 suggests that consistent unit experiences and shared setbacks across intra-army divisions does not guarantee successful adaptation.⁴⁸ Prior to Meiktila, the Burma Area Army's divisions remained in Burma for nearly the entire campaign but none of the BAA regiments, brigade groups, divisions, or armies conducted any meaningful adaptation before or during the Irrawaddy operation.⁴⁹ These examples suggest that a concurrent employment of units does not necessarily contribute to wartime adaptation.

Yet other cases were different. The First Arakan Offensive suggested that successive units can fail to adapt, as well as perform less effectively than concurrent ones. The attacking 14th Indian Division had arrived after the 17th Indian and 1st Burma divisions but integrated little information regarding their experiences.⁵⁰ Successive units employed unchanged tactics, displayed similar low effectiveness, and continued to fail in the same ways—all against IJA defenders that had remained in Burma since the invasion. The IJA 213th Regiment suffered no significant setback by their continued deployment, and the outnumbered defenders fought well against the larger and better-equipped attackers. The LRPG indicated how adaptations during sequential unit rotations may produce changes that are dangerous and deadly. After the failures of Operation LONGCLOTH, the LRPG had a clear opportunity to deliver lessons from the first operation to its new units through nearly six months of training. However, the resulting adaptations proved costly and contributed to failure.

Thus, the case studies inconclusively addressed this question while indicating potentially important issues for the future. One may ask: What kind of unit relationships are more likely to produce tactical adaptation that results in operational success, when they are primarily across successive units or concurrent

⁴⁸ Fifteenth Army possessed 33rd Division, an original invading unit from 1942, joined soon afterwards by 31st and 15th divisions. One would expect to have seen different results if concurrent unit relationship played a decisive role in performance and outcome. Rather, all these divisions displayed similar shortcomings regarding inflexibility and an inability to overcome setbacks.

⁴⁹ The IJA would re-fill divisions with replacement personnel rather than rotate the unit.

⁵⁰ The division failed to incorporate the limited attempts to address shortcomings from other units in Burma and Malaya, beginning to be codified in the new edition of *MTP9*, an attempt to address jungle warfare in *AITM14*, a few lessons from Malaya in *AITM15*, and introducing infiltration tactics in *AITM17*.

ones? If regarding unit relationships and comparing successive (across time) versus concurrent (across space) then a tentative hypothesis may be: “tactical adaptation conducted among successive units is more likely to result in operational success than that conducted among concurrent units.” This hypothesis posits that successive units promote solutions to sustain and endure beyond the units’ presence and therefore may outlive their initial creation and prevent idea loss. Successive units may refine, improve, and evolve ideas due to additional time, experience, and perspective. In practice, battlefield adaptation may combine elements of sharing between concurrent and successive units, but forces’ personnel, missions, procedures, resources, and organizations regularly prioritize one type over the other. Examining the role of unit relationships and adaptation should deliver new evidence to help form probabilistic predictions regarding wartime change. It would also have practical relevance regarding the employment and sustainment of forces.

Case Study Theme for Further Study (2): Technology

The other theme may be considered a corollary of H3, which considered technology, reorganization, and training. Findings from this project’s case studies supported the role of skill compared with new technology, but the cases also suggested additional questions that the specific circumstances in Burma and India were unable to address. This scenario reveals two additional ideas about wartime change and questions about integrating technology with warfighting concepts.

First is the idea that technology creates new challenges. This notion posits that new or advanced equipment, weapons, or resources can create challenges through new requirements and disruption. These requirements may undermine wartime effectiveness due to the challenges or due to insufficient time to address their effects. New things require new knowledge, and more complicated equipment often requires greater specialization. The degree of these changes and their impact may be significant, surprising, and undesirable. Technological complexity may create new or unpredicted requirements for military units that can be “devastating if the organizational is not ‘internally receptive.’”⁵¹ The more frequent the changes in

⁵¹ Chris C. Demchak, “Coping, Copying, and Concentrating: Organizational Learning and Modernization in Militaries (Case Studies of Israel, Germany, and Britain),” *The Journal of Public*

equipment or personnel then “the higher the level of unknowns is likely to be.”⁵² As technological complexity increases, so does the number of interactions vulnerable to minor variations which can cause unexpected outcomes and increase the probability of battlefield surprise.⁵³ Therefore, technology-driven changes may create new burdens and responses may risk lowered effectiveness.⁵⁴ As a result, one tentative hypothesis for future testing may be: “tactical adaptation based primarily on introducing new equipment is less likely to result in operational success because it disrupts organizations and the operating environment.” If the perspective emphasizing disruptions is correct, then findings should reveal that adaptations based solely upon new or modified equipment is unlikely to result in operational success. This outcome would be because new technology brings challenges which cannot be fully corrected during warfare.

Second is the idea that incorporating new equipment or technology appears less costly if it fails to challenge fundamentally a military’s concepts of warfare.⁵⁵ In this case, introducing new or modified equipment still delivers challenges and costs as the technological advancements often require new basic skills and organizational integration. However, these challenges may be overcome through training and reorganization which ultimately may enable skilful integration and mitigate costs. This notion is supported by analysis of First World War technical infantry tactics,⁵⁶ as well as examples of modified U.S. convoy equipment in Vietnam and Iraq.⁵⁷ Following these considerations, a tentative hypothesis may be: “tactical adaptation based primarily on modified equipment is likely only modestly to impact

Administration Research and Theory: J-Part, Vol. 5, No. 3 (July 1995), pp. 346; Chris Demchak, *Military Organizations, Complex Machines* (Ithaca, New York: Cornell University Press, 1991).

⁵² Demchak, *Military Organizations*, 169.

⁵³ Demchak, *Military Organizations*, 4.

⁵⁴ Demchak’s assessment of U.S. Army incorporation of M1 ABRAMS battle tank concluded that surprises caused people to respond by increasing greater control over practices. This reaction reduced flexibility and increased rigidity, contradicting a core tenet of Army doctrine and creating ad-hoc adaptations that delivered new costs. Demchak, *Military Organizations*, 41-61, 169.

⁵⁵ Paddy Griffith, *Battle Tactics of the Western Front: The British Army’s Art of Attack 1916–18* (New Haven, Connecticut: Yale University Press, 1994); Joh T. Hoffman, ed., *A History of Innovation: U.S. Army Adaptation in War and Peace* (Washington, DC: Center of Military History United States Army, 2009); David E. Johnson, *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army, 1917–1945* (Ithaca, New York: Cornell University Press, 1998).

⁵⁶ Griffith.

⁵⁷ Nina Kollars, “War’s Horizon: Soldier-Led Adaptation in Iraq and Vietnam,” *The Journal of Strategic Studies*, Vol. 38, No. 4 (3 January 2015), pp. 1-25; Nina Kollars, “Military Innovation’s Dialectic: Gun Trucks and Rapid Acquisition,” *Security Studies*, 23 (2014), pp. 787-813.

operational effectiveness since it poses minimal disruptions and operates in accordance with known tactical methods, requiring only retraining or reorganization.” If the perspective emphasizing incorporation with minor disruptions is correct, then analysis should reveal that adaptation based on modified equipment that fails significantly to challenge known methods is likely to increase effectiveness and to contribute to success.

Case Study Subjects for Further Study

Japanese and Chinese forces in Burma were both under-represented in this study. A better understanding of their experiences and processes is likely to benefit future analyses of wartime adaptation and effectiveness. For the Japanese, barriers to information availability and accessibility proved more significant than anticipated which resulted in omissions, some that may be corrected while others are likely to remain unknown. A more comprehensive analysis would benefit by incorporating the Japan Defense Agency’s 102-volume official history of the Second World War.⁵⁸ Despite parts being more than 50 years old and “somewhat uneven in quality,” the series still would be a useful source to consider for an improved examination of the Japanese experience in Burma.⁵⁹ For tactical analysis, the twenty-volume Association for the Study of the History of Land Warfare series could be a useful source, particularly the two-volume *Inpharu saksusen* about Imphal.⁶⁰ Granted, understanding *Nihongo*, *haragana*, *katakana*, and *kanji* may not necessarily release a trove of high-value information. IJA war records do not exist in the same volume or format as in England or India. In addition, IJA reporting, when it occurred, was limited in several ways compared with the British military. Directives and reports tended to be short, factual, and avoided personal assessments.⁶¹ However, researching the process of IJA assessment and its impact on operations remains an opportunity that this project failed to explore fully.

⁵⁸ Japan, *Boeicho*, *Boei*, *kenshujo*, *Senshi shitsu* (War history office, National defense college, Defense agency) *Senshi sosho* (Official Military history) series. In Edward J. Drea, *In the Service of the Emperor: Essays on the Imperial Japanese Army* (Lincoln, Nebraska: University of Nebraska Press, 2003), p. 272.

⁵⁹ Drea, 273.

⁶⁰ *Inpharu sakusen* (The Imphal operation) (Tokyo: *Rikusenshi kenkukai*, 1969). Drea, 273.

⁶¹ For more on Japanese language sources, see Drea’s bibliographic essay, 271-284.

The role of Chinese forces and the Northern Combat Area Command (NCAC) also presents several opportunities. As a SEAC sub-command for ground operations in northern Burma, the NCAC combined nationalist Chinese troops, American trainers, advisors, commanders, and British resources, to produce two large forces despite limited battlefield impact or experience. As part of the initial retreat out of Burma, Chinese forces that entered India became X-Force and grew to five divisions with over 75,000 personnel. Using U.S. advisors and British material, several of these units later fought the Japanese in China. Another group, Y-Force, remained in China near Yunnan and Kunming, with Chinese forces trained to fight in Burma and reopen the Burma Road. Y-Force grew to 15 divisions with 175,000 troops,⁶² and in late 1944 elements fought the IJA 56th Division (Thirty Third Army) in Burma along the Schweli River. This experience of partnering and building forces presents another opportunity to deliver an enhanced understanding of wartime change and its impact on performance.

A comparison among British forces across different operational theatres also may provide valuable new insights about wartime performance, change, and outcome, particularly those gleaned from comparing British Army with Indian Army forces. Both forces fought and learned in ways that, as discussed briefly in Chapter Two, remain contested regarding effectiveness, efficiency, and impact. A more comprehensive comparison between 21st Army Group in Northwest Europe and Indian Army forces in either Southeast Asia or the Middle East could enable a greater understanding about wartime change, effectiveness, and outcome. Findings could also raise new topics for future analysis regarding military adaptation and innovation, particularly about the roles of commanders and how to manage an organization's officer corps, since several commanders moved between forces and units while nearly all of the troops remained within the same organisation. Tracing how lessons were shared formally, informally, developed, or failed to do so, may warrant future exploration and benefit the larger field of military innovation studies.

⁶² With a planned strength for Y-Force by June 1943 of 350,098 total personnel across eleven corps-sized units. Charles F. Romanus and Riley Sunderland, *United States Army in World War II, China–Burma–India Theater: Stillwell's Mission to China* (Washington, DC: United States Army Center of Military History, 1987), pp. 298-300, first printed in 1953.

Adaptation Topics for Future Research

This assessment emphasized how the subfield of wartime adaptation contains numerous topics for additional study. Air innovation appears particularly opportune, as preliminary findings suggest that airpower innovation is “poorly understood” by many, and entails distinct elements that make it occur differently compared with armies or navies.⁶³ Relatedly, aside from a few analyses, contemporary adaptation studies focus largely on ground-based operations.⁶⁴ This scenario delivers numerous opportunities to examine other services such as maritime forces, marine forces, service-based special operations forces, or hybrid forces.⁶⁵ Also useful may be moving beyond a service-based perspective to military-civilian organizations, joint units like those employed by Special Operations Command, or ad-hoc task force arrangements. In addition, contemporary joint warfighting arrangements and institutions entail core expectations about future warfare, to include multi-national coalitions, but this topic with clear practical relevance has been largely overlooked.⁶⁶ This study’s example of British forces pushing to Meiktila also highlighted how the subfield of wartime adaptation may be incomplete without an improved understanding of adaptation at the operational level. Some authors have

⁶³ Adam R. Grissom, Caitlin Lee, and Karl P. Mueller, *Innovation in the United States Air Force: Evidence from Six Cases* (Santa Monica, California: RAND, 2016), p. viii. Specifically, the authors examined the U.S. Air Force, concluding that “the Air Force innovates differently than other military organizations,” and that “airpower innovation, as a distinct phenomenon, is poorly understood outside the Air Force.” Grissom, Lee, Mueller, vii-vii.

⁶⁴ Notable exceptions are the maritime analyses of Frank Hoffman, past examinations of U.S. submarine warfare by Stephen Rosen, and emerging airpower analysis led by Adam Grissom and RAND. See Francis G. Hoffman, “The American Wolf Packs: A Case Study in Wartime Adaptation,” *Joint Force Quarterly*, No. 80 (1st Quarter, January 2016), pp. 131-139; Francis Hoffman, “How We Bridged a Wartime ‘Learning Gap,’” *Proceedings*, Vol. 142, No. 5 (May 2016), pp. 22-29; Rosen, *Winning the Next War*, 130-148. For an overview of USAF adaptation, see Grissom, Lee, and Mueller. For a case study, see Nina A. Kollars, Richard R. Muller, and Andrew Santora, “Learning to Fight and Fighting to Learn: Practitioners and the Role of Unit Publications in VII Fighter Command 1943–1944,” *Journal of Strategic Studies*, Volume 39, No. 4 (August 2016), pp. 1044-1067. For some recent analyses continuing to emphasize ground operations, see Torunn Laugen Haaland, “The Limits to Learning in Military Operations: Bottom-up Adaptation in the Norwegian Army in Northern Afghanistan, 2007–2012,” *Journal of Strategic Studies*, Vol. 39, No. 7 (July 2016), pp. 999-1022; Raphael D. Marcus, “Learning ‘Under Fire’: Israel’s Improvised Military Adaptation to Hamas Tunnel Warfare,” *Journal of Strategic Studies* (April 2017), pp. 1-27; Olivier Schmitt, “French Military Adaptation in the Afghan War: Looking Inward or Outward?” *Journal of Strategic Studies*, Vol. 40, No. 4 (August 2016), pp. 577-599.

⁶⁵ Term selected to denote organizations within a service with capabilities often associated with joint operations, like U.S. Marine Corps air-ground task force or UAE Presidential Guard.

⁶⁶ Aside from a few examinations that include Theo Farrell, Sten Rynning, and Terry Terriff, *Transforming Military Power since the Cold War: Britain, France, and the United States, 1991–2012* (Cambridge, United Kingdom: Cambridge University Press, 2013); Schmitt, “French Military Adaptation.”

initiated analyses on this topic but many questions remain unaddressed.⁶⁷ Lastly, this examination failed to deliver comprehensive analysis on a topic it sought to address more fully: bottom-up innovation. It would seem that, even a decade later, there remains “an entire class of bottom-up innovations that have yet to be explored, understood, and explained.”⁶⁸ The subfield will be richer from these analyses.

SHORTCOMINGS AND OMISSIONS

This work contains several shortcomings and omissions. Most glaring may be the failure to answer, fully, two considerations underlying this project’s research design. First: When does tactical adaptation fail to cause a corresponding increase operational effectiveness? This consideration about how adaptation may fail to increase effectiveness was displayed in two operations by the LRPG, showing how wartime adaptation does not necessarily improve effectiveness even when increasing capabilities. The new skills and technology incorporated by LRPG clearly delivered new abilities, notably increasing tactical reach, mobility, and small-unit autonomy, but the units failed to achieve their goals. These cases suggested that the types of adaptation and the conditions under which they occur—with semi-autonomy, select political endorsement, and without external evaluation of ideas or concepts—may deserve additional analysis to avoid similar future expenditures in lives and resources in excess of gains. This topic still requires additional research and evidence before making specific prescriptions about how, why, or when adaptation may fail to improve performance—or even reduce it.

The second consideration was addressed even less. One must ask: When does adaptation increase effectiveness yet fail to deliver operational success? Essentially no example across the cases in Burma and India revealed adaptation increasing effectiveness while failing to deliver success. This shortcoming resulted largely from the selection of case studies. It was expected to find more examples of IJA adaptation and increased effectiveness during 1944 and 1945 without attaining success, as well as British adaptations in 1942 and 1943 that proved insufficient to succeed. These expectations were wrong. Neither the Japanese nor British

⁶⁷ For one assessment of adaptation at the strategic and operational level, see Farrell, Osinga, and Russell, *Military Adaptation in Afghanistan*.

⁶⁸ Grissom, 930.

conducted any significant adaptations that increased effectiveness but remained insufficient to alter outcome. If removing the independent variable of adaptation to concentrate solely on the intermediate variable of effectiveness and the dependent variable of outcome, then the comparison of IJA forces between Imphal and Meiktila initially appears to address this question but fails upon closer examination.⁶⁹ In future examinations, either improved criteria for measuring effectiveness or additional case studies may deliver new insights regarding this important consideration about how forces that improve performance still may lose.

Third, case selection inherently limited the findings of this examination and their applicability due to the nature of operational challenges posed by the IJA and the specific environmental challenges across Burma. The battlefield challenges were difficult but not inherently complex, novel, or innovative. IJA attackers surprised defenders by moving through terrain considered impassable, but nothing was inherently mysterious or unidentifiable in the notion of tactical infantry infiltration and hooking around defensive positions. Similarly, the defensive bunkers seen first in Arakan were difficult to overcome but were not fundamentally incomprehensible. The problems were clear. Therefore, the way to find answers was also relatively straightforward: assess, research, test, evaluate, disseminate, apply, and refine. These problems were simpler and more easily rectified than could have been, and as others faced during the same period, such as the puzzles of combined-arms warfare faced by British forces fighting Germans across North Africa and Europe.⁷⁰ The problems and solutions in Burma also remained largely tactical.⁷¹ Related to these traits, challenges in Burma and India did not rely on major innovations from

⁶⁹ According to ratings in chapters eight and nine, IJA forces did show low effectiveness at Imphal then intermediate at Meiktila but a close examination reveals problems with expanding this conclusion due to specific details between these units. The low effectiveness displayed by Fifteenth Army by the end of Imphal was more of a temporary decrease due to setbacks incurred during the operation, and therefore cannot be considered constant throughout the operation or with other forces. Additionally, there is a problem of continuity between Fifteenth Army at Imphal and the Burma Area Army at Meiktila since many of the latter forces that displayed intermediate effectiveness did not participate in the Imphal operation and may be considered a separate force. As such, they largely avoided the temporary slip into low effectiveness and therefore reflected the unchanged tactics and intermediate effectiveness displayed across most IJA units throughout the campaign.

⁷⁰ For example, see Hart, *Clash of Arms*. Of course, the development of ground tactics was more closely related than tactical developments in other areas such as submarine warfare. See Rosen, *Winning the Next War*, 130-147.

⁷¹ Unlike, for example, the broader challenges of linking multiple operations as learned by the Soviets during the same period. See Glantz and House, *When Titans Clashed*.

between the wars, challenges which may require significant developments in technological capability, new concepts, and organizational integration.⁷² Furthermore, when addressing these problems, British forces possessed time and space to learn. Located beyond Japanese control with refuge in India and often protected by the monsoon, British forces had an area to reorganize and to learn, supported by the larger base in India. These circumstances indicate how the findings from Burma and India may have reduced applicability to some other scenarios.

Fourth and finally, the research suffered from incomplete information due to limitations in source availability and accessibility, and this scenario likely influenced the analysis. Nearly all primary source material derived from contemporary British records which likely skewed the analysis, albeit within a range that is believed to have retained sufficient analytical objectivity. This outcome partially is due to practical considerations, as the United Kingdom possesses a significant amount of records at the British Library, The National Archives, Imperial War Museum, School of Oriental and African Studies, and Liddell Hart Centre for Military Archives, all of which are accessible. Essentially all these items were in English, as were the materials received from India. The British and Indian armies' commitment to routinized record-keeping and rather candid reporting meant that there was a significant amount of material available. Of course, winners also write much of history, and tend to retain more of it, both contributing to an imbalance of information. Thus, as this project unfolded, the analysis tended to emphasize British actions and actors. This perspective was primarily because the British conducted most of the variables this study aimed to examine, and therefore proved the key actors for assessing the phenomenon of wartime tactical adaptation. However, the availability of information did shape this project and its ultimate form.

FINAL THOUGHTS

On 9 August 1945, the attack which Japanese planners had anticipated since 1939 finally began.⁷³ The USSR invaded Manchuria with over 90 divisions and 1,500,000

⁷² Such as those required in larger innovations like aircraft carriers and carrier battlegroups. See Horowitz, 65-97.

⁷³ For many years, Japanese planners and IJA doctrine considered fighting the USSR in Manchuria their primary threat, most likely adversary, and expected location for battle. However, the period after the 1939 conflict at Nomonhan/Khalkhin-Gol may be considered distinct since "the IJA

personnel against the 713,000-member Kwantung Army.⁷⁴ After just eleven days the Red Army pushed nearly 1,000 kilometres into Manchuria, with forward elements as far as northern Korea, and compelled Japanese surrender in “a masterpiece of maneuver warfare.”⁷⁵ Considering this clash of unchanged Japanese techniques with Soviet innovations in deep battle, one obvious conclusion is how the failure to change risks future defeat. Another is the significant capabilities possible through wartime change. Both are themes throughout this project. To the contemporary reader, this example’s relevance may be easy to dismiss since these lessons seem clear. To overlook such obvious lessons about the dangers of stasis and the virtues of adaptation would unnecessarily court future costs in blood and resources.

Sixty-two months later, and again in Manchuria, forces crossed the Yalu River to attack American and Korean defenders. Using penetration attacks and infiltration tactics to bypass units and isolate defenders—not significantly different than those used by the Japanese in Burma—light infantry divided the defending force and expelled both Eighth Army and X Corps from the peninsula. The attacking Chinese consistently isolated and compartmentalized U.S. defenders, smashed ROK and U.S. forces, and several units began to fall apart. In particular, the experience of Eighth Army has been called “the essence of adaptive failure.”⁷⁶ This example reinforces how evidence of problems may be insufficient for incorporating solutions, and how past learning may be insufficient to retain knowledge—as the U.S. certainly had experience fighting against Japanese small-unit tactics like those displayed in Korea. In addition to the importance of wartime adaptation to overcome immediate setbacks, retaining those lessons may be critical for preventing needless deaths on future battlefields. Pity those who are forced to repeat avoidable mistakes.

regarded Khalkhin-Gol as their first exposure to modern combined arms warfare.” Edward J. Drea, “Tradition and Circumstances: The Imperial Japanese Army’s Tactical Response to Khalkhin-Gol, 1939,” in Drea, 1.

⁷⁴ The Kwantung Army’s 713,000 also included 170,000 Manchukuoan and 44,000 inner Mongolians, while in Manchuria the Soviets brought 1,577,725 troops supported by 5,556 tanks and self-propelled guns. Glantz and House, *When Titans Clashed*, 279, footnote 10.

⁷⁵ David M. Glantz, *August Storm: The Soviet 1945 Strategic Offensive in Manchuria* (Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, February 1983), p. xviii; Glantz and House, *When Titans Clashed*, 278-280.

⁷⁶ Eliot A. Cohen and John Gooch, *Military Misfortunes: The Anatomy of Failure in War* (New York: Free Press, 2006), p. 161, updated with new afterward, originally published 1990.

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